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THORACIC INJURIES

REPORT OF CASES TREATED BY SURGICAL TEAM 39 AT EVACUATION HOSPITAL NO. 8 FROM SEPT. 6 TO OCT. 25, 1918

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Captain, M. C., U. S. Army

FRANCE

During the forty-nine days of our stay at Evacuation Hospital No. 8, the team treated 250 patients and performed a total of 340 operations, as contained in report dated Nov. 5, 1918.

There were sixty-seven cases of thoracic injuries, or about 27 per cent. of the whole number of wounded. This high percentage is explained by the fact that Team 39 was assigned the greater number of this class of cases. A number of others not in our list were sent to one of us (H. L.) in consultation, and in most of these, for example, cases of severe fracture of the skull complicated by thoracic wounds, operations on the chest were not performed.

CONDITIONS

The hospital operating room and its accessory departments, preparation, shock, roentgen-ray, etc., were well equipped and excellently managed by Major Arthur Shipley under Colonel Hall, commanding officer. Asepsis was as perfect as could be expected under the circumstances.

Under the plan of the institution there could be no segregation of the different classes of patients at operation; accordingly operation in the malignant gas gangrene cases was necessarily performed in the same room with others that might be clean or at most only under suspicion. Since there were so many of the latter class, however, the actual infection of wounds by the discharges from other patients could not be traced. Also, the proportion of those known to be aseptic at the time of operation which became infected afterward must have been almost negligible. It is believed, however, that the important class of abdominal and thoracic injuries might have been treated to better advantage had there been a special operating room equipped for the purpose.

CONDITION OF PATIENTS ON ADMISSION

Most of the patients arrived within twenty-four hours after being wounded. The shortest period was about four hours, and the longest six days, the latter interval occurring in the case of a German prisoner with two sucking wounds. He stated that he had not eaten during this entire time. He died a few hours after an operation under local anesthesia to close the thorax. About one third of the patients (twenty of the sixty-seven) were in shock on admission, and either had to be treated in the shock ward for from several hours to two days before operation, or the operative treatment, when urgent, had to be modified to suit the case.

A certain degree of vital depression, not perhaps amounting to actual shock, was present in nearly all of our patients, and it is believed that this element of depression caused by fatigue, both mental and physical, by hemorrhage, by hunger and thirst and by exposure, was responsible for that general state which surgeons mean to designate when they use the expression "poor risk."

It was this matter of "poor risk" that caused us to abandon early the idea of attempting to extract every foreign body merely because the immediate operation would probably be easier than it would be later when deforming adhesions and embarrassing exudates would add to the technical difficulties. We therefore reserved the free exploration of the thoracic cavity (described under "Operative Procedures") for those cases in which the foreign body had done such severe damage that repair was urgent, or when it was so large or so dangerously placed that its removal appeared imperative. Thus, a large, rough piece of shell, say 2 by 2 cm. in size, which might reasonably be supposed to have carried bits of clothing into the thorax, would be removed; while a machine gun bullet or a small piece of high explosive shell, which for the present at least was apparently quiescent, might, from the evacuation hospital point of view, be better left than removed by a large operation.

FRACTURED RIBS

The complication of fractured ribs may be considered one of the most dangerous of war wounds of the thorax. It almost invariably leads to infection, especially when numerous spicules have penetrated the lung.

The larger bronchi have been found by many investigators to be the habitat of anaerobic and other microorganisms, while the smaller air passages have been considered sterile. But when these smaller bronchioles have been wounded from without so that a free passage exists from the larynx to the wound, the first cough or other expulsive effort of the patient must drive infection from these larger bronchi directly into the visceral wound. This is a simple mechanical explanation of the almost universal infection of these rib punctures and lacerations in compound costal fractures, and it also explains pretty well the absence of

infection in "closed thorax" fractures of the ribs; for here the intrathoracic pneumatic pressure prevents the secretions of the bronchi from being carried to the wound of the peripheral part of the lung. The same danger of infection is present in open (sucking) wounds inflicted by lung-piercing projectiles, while it is often absent when the projectile is small and its track of entrance is closed spontaneously by overlapping tissue planes. Whenever, therefore, there was an open sucking wound of the thorax, great care was taken to "clean up" splinteered ribs and to extract loose fragments from the wounded lung.

There were eighteen of these cases in which ribs had been fractured through large wounds, and of these patients, eight died, a mortality of 44 per cent., a larger death rate than in any other class of thoracic wounds.

"SUCKING WOUNDS"

Sucking wounds are those in which there is a free access of air to and from the interior of the chest. These wounds, when small, are not necessarily dangerous. Traumatic openings, however, when large enough to admit air by suction in quantities as great as or greater than that which enters the lungs through the larynx, give rise to the well known flapping of the soft tissues of the mediastinum with each respiration. This condition is extremely dangerous, not only because it diminishes the amount of intrapulmonary respiratory air in the uninjured as well as in the injured side, but also because the motion to and fro of the heart itself forms the basis of a particularly fatal form of cardiac shock.

Probably the simplest method to overcome this condition for the time being is to close the chest in the quickest possible way, even though it be done by simple skin suture, or, failing this, by firmly covering the wound with soaking wet gauze. If the wound is a very large one, the patient's distress due to the mediastinal motion can be instantly relieved by traction on the presenting lung. This steadies the mediastinum, and a few sutures or even a sterile safety pin holding the lung to the chest wall will for the time being relieve the condition. No great traction force is necessary. The pleura covering the mediastinum is in from twenty-four to forty-eight hours stiffened by exudate, and the peril of the flapping ceases. It is the presence of this stiffening exudate that makes opening the infected chest less dangerous than wounding the normal thorax. Thoracotomy for empyema will illustrate this immunity.

Large sucking wounds also presuppose gross injury to lung and other structures, besides the probable implantation of infected material, such as clothing, etc.

Fifteen of these open sucking cases were treated by us, and there were six deaths—a mortality of 40 per cent.

PENETRATING WOUNDS

In the class of penetrating wounds we include cases in which the missile is within the chest or in the thoracic wall, having passed completely through one wall of the cavity, but with no wound of exit. There were thirty of these, with nine deaths—a mortality of 30 per cent.

COMPLETELY PERFORATING WOUNDS

Completely perforating wounds, with entrance and exit and no foreign body remaining, form a list of twenty-one, with only two deaths, or a mortality of 10 per cent. No large operations had to be performed in these cases. In fact, often the simplest débridement sufficed, especially in the probably aseptic through and through punctures by hot machine gun bullets striking the chest squarely and not tangentially. These patients usually suffer comparatively little. There may have been a little hemoptysis, often a hemothorax relieved by simple emptying by cannula, described farther on, and in a few days there is apparent recovery. But it is well known that these hemothorax cases are sometimes the site of very mild infection with late empyema formation, and some of these simple cases, with no operation or with simple local anesthesia débridement have developed an opposite lung pneumonia from five to seven days after the injury. Also, from observations at Base Hospitals No. 3 and No. 101, it has been learned that patients of this class sent to the base will sometimes develop the most serious infection. The estimation of mortality rate from work solely at the front cannot fail to be misleading.

MISSILES

Bullet and shell fragments injuring the thorax were rather surprisingly similar in percentages of mortality, the difference in those cases in which the character of projectile had been demonstrated being but 2 per cent. There were twenty-two bullet wounds with 27 per cent. of deaths, and sixteen shell fragment injuries with 25 per cent. mortality. This may be accounted for by two factors: Bullets striking the ribs at a slant or tangentially make ugly and destructive wounds, while it is only the smaller shell fragments that give rise to injuries not immediately fatal. So by the time the patients had reached the evacuation hospital, the conditions had been equalized, small, completely perforating éclats often doing little or no more damage than merely perforating machine gun bullets, while the large pieces of high explosive shells killed the men outright.

Illustrating the fact that rifle bullets striking at an unfortunate angle were capable of inflicting injuries of great magnitude, we briefly cite the case of a soldier who was struck by a machine gun bullet near the angle of the eleventh rib. The missile, ranging upward, fractured the next upper five ribs in the same location, and then passed through the external soft parts and out through the axilla. There was an enormous wound on exposing the injured region, the abdomen, diaphragm and thorax being widely torn so that portions of the stomach, spleen, omentum and colon prolapsed into the wound. The abdominal wall and wounded diaphragm were repaired and the lungs insufflated by the intrapharyngeal method so that the left lower lobe presented at the wound. The defect in the parietal pleura, fully 5 cm. in diameter, was closed by suturing the lung to the circumference of the pleural wound. This patient did well, though he developed an opposite lung pneumonia, and when the team left the hospital the prognosis was excellent. There had been no leakage around the suture line of pleura and lung.

Another patient had been struck in a similar manner, the greater part of the left chest collapsing. His condition was not suitable for operation, and he soon died.

One man was struck in the right arm, the missile cutting the musculospiral nerve and not injuring the humerus; then it entered the right side in the axillary line, fifth interspace, traversing the chest and present-

ing beneath the skin in the fifth interspace, left axillary line. It was removed under local anesthesia. The éclat was 2.5 cm. long (1 inch) and 0.63 cm. in section (1-4 inch square) and weighed 24.5 gm. It had entered "head on" and had apparently maintained its trajectory without "up ending." Yet, excepting a right hemothorax which was emptied by trocar and cannula, no ill effects appeared to follow this and the man was evacuated practically well, within ten days. Theorizing on this strange accident, one is forced to the conclusion arrived at by one of us (W. A. K.) that the projectile struck the posterior wall of the sternum and thence was deflected endothoracically but outside the lung, still traveling in the direction of its long axis until it reached the costal interspace, where it lodged beneath the skin, not having caused enough damage in the left chest to produce a left hemothorax.

HEMOTHORAX

The diagnosis of hemothorax is easy, especially in the recent cases. Flatness on percussion with strong voice conduction are characteristic. The fluoroscopic examination is confirmatory.

The blood may so obscure the screen or plate that foreign bodies even of large size may be missed. A recent hemothorax in a patient whose condition does not seem to warrant a cutting operation should be treated by emptying it with the trocar and cannula of the army general operating set and without forcible suction. The procedure will be described later. An infected hemothorax should be treated as an empyema.

PNEUMONIA OF THE UNINJURED SIDE

Pneumonia of the uninjured side was the commonest and probably the most serious complication that we encountered. Nor did it seem to make any particular difference whether the patient had been operated on or not. It was of the bronchopneumonic type, but the patches as discovered by physical signs and checked up by roentgenoscopy were extensive. The middle and upper parts of the lung were most often affected, the bases rarely. The disease usually appeared from five to seven days after the injury, and in at least three cases it defervesced by crisis and then recurred. We have no theory to explain the incidence of this complication. It reminds one of the so-called "sympathetic" or "reflex" anuria of unilateral acute kidney lesions.

INFECTION BEFORE OPERATION

Four of our patients had advanced infection of wounds before operation, though it is probable that few or none of the wounds were bacteria free. Of these four patients, three died. In one of these Welch's bacillus was present, in one, Welch's bacillus and streptococci, and in the third and fourth the bacteriology was not noted.

ROENTGENOGRAPHY

The roentgenographic department, an indispensable adjunct to modern war surgery, was most efficiently directed by Captain Alleman and his staff. The speed and accuracy with which foreign bodies were localized during a rush of wounded is worthy of high commendation.

In the intelligent after-treatment of chest injuries, fluoroscopy in the vertical posture is a necessity. The apparatus was secured a few days after the arrival of Team 39, and it proved of enormous value, both in determining the presence of exudate, usually blood, and also in confirming the diagnosis of consolidation (pneumonia) of the "other" lung. Frequently the changes in a case had to be observed from day to day, to decide on repeated aspiration or other secondary procedures that might be of vital importance. Fluoroscopy of this kind occupies only a few minutes; it saves plates and films, and gives one a better idea of lung expansion than could possibly be obtained in any other way. The difference in this respect is similar to the comparison of observations made during a surgical operation and those at a necropsy.

We believe that the vertical fluoroscope should be part of the equipment of every evacuation hospital. The amount of current and the size of the tube are much less than are required for making plates.

IMPROVEMENT IN INTRATHORACIC LOCALIZATION

Bodies appearing within the heart shadow and moving with the cardiac impulse are not necessarily within the heart or pericardium. They may be in the lung lying next to the pericardium, and at operation when the lung collapses they may be found far from the heart. Also, bodies within the chest and localized by the roentgen ray may at operation be found at some distance from the point of localization, especially if they are within the lung substance. A better idea of where they will lie when the chest is open may be obtained if after the first roentgenographic examination a cannula is inserted through the thoracic wall and left there long enough for the air to enter and the lung to collapse. A second roentgenographic examination will then often reveal the shadow of the foreign body at some distance from where it was first localized and nearer the point where it will be when the chest is open. We tried it in two cases, and the shadow had moved more than 3 inches. Naturally, this method is unnecessary in sucking wounds.

ANESTHESIA

Unfortunately most of the time ether or local anesthesia had to be employed, because it was not possible to secure the nitrous oxid apparatus until about ten days before the departure of the team.

OPERATIVE PROCEDURES

Major Intercostal Thoracotomy.—A long intercostal incision is made, usually in the seventh interspace, the ribs being separated from 3 to 5 inches or more by means of a powerful retractor. Lilienthal's instrument was used. Exposure and ease of manipulation are better than by any other known method, and resection of a rib is very rarely necessary in these recent cases. All parts of the chest can be easily reached by eye and hand—even by both hands—and the work done is correspondingly safe. The lung may be collapsed or distended by the anesthetist, who forces the ether, gas or air by means of a foot bellows through a tube in one nostril, closing the patient's mouth and other nostril. The demonstrations were said to be most convincing.[1]

These wide explorations were reserved for the serious class of cases referred to earlier in the article. They were sixteen in number, and seven of the patients died—a mortality of 43.7 per cent. Among these was

1. The method of anesthesia has been fully described on page 8 of a paper forwarded, Aug. 19, 1918, from Base Hospital No. 101, Base Section No. 1, to the chief surgeon, American Expeditionary Forces, at his suggestion in the third indorsement of a communication by Lieutenant-Colonel (then Major) Lilienthal to the chief surgeon, A. E. F., dated Base Hospital No. 3, June 15, 1918.

one case in which a foreign body in the pericardium was mistaken for one in the lung.

Six of the sixteen patients were in shock, and of these four died, three of gas gangrene.

In three of these large chest operations other major operations had to be performed at the same sitting. None of the patients in this group died.

Several times the original wound was enlarged, with or without resection, and rib-spreader exploration performed.

In three cases the missile had penetrated the chest wall and had lodged in or just below the diaphragm. In two of these, wide exploration made it a simple matter to extract the foreign body and suture the diaphragmatic wound. One foreign body had passed almost through the diaphragm and was dislodged, dropping into the abdomen at the first touch. The patient, however, made an excellent recovery.

In one case there was a wound of the pericardium through the right chest. It was easily sutured through the wide intercostal thoracotomy.

Pneumopexy.—Suture of the lung to the chest wall was done in our cases only to close large defects of the pleura and ribs. The lung is distended by the anesthetist until it lies flush with the thoracic wall, plugging the defect. It is then neatly sutured to the edges of the pleural opening. This was done four times, and in one case the lung suture loosened. This patient had anaerobic gangrene of the chest wall. He was finally evacuated to Base Hospital No. 3 and is now doing well.

Method of Emptying Hemothorax.—With the patient sitting, under local anesthesia, including the pleura, an incision one-half inch long is made through the skin. A medium-sized or large cannula of the army general operating set is introduced. A rubber tube not less than 8 inches in length is attached to the cannula after it is in place and the fluid is running. It may now be siphoned off, and as the chest empties, air takes the place of the bloody liquid. If this air is to be left in, to be later absorbed, the cannula may now be removed. If the air is to be expelled and the lung expanded to the chest wall, the patient is ordered to strain with the glottis closed, and the instant no more air escapes from the cannula the instrument is withdrawn. From 1,000 to 2,200 c.c. of fluid may be quickly, safely and painlessly removed. Also, wounding the expanding lung by a needle point is obviated. If the hemothorax fluid is to be used in transfusing the same patient, it may be collected directly from the tube into a sterile bottle, examined by culture, filtered and citrated. This form of transfusion was practiced by us but once, and the already moribund patient finally succumbed. A hemothorax emptied and shown by culture to be mildly infected (by the staphylococcus) may nevertheless go on to recovery without operation. We encountered one such case, the patient being evacuated, apparently well, in two weeks. We regret, however, that we were not successful in following up this patient after he left us.

Postmortem Examinations.—There were but few postmortem examinations, because no pathologist was connected with the institution and Lieutenant Pettit, an excellent bacteriologist, was too much occupied during the rush period with his laboratory work to perform necropsies. Examinations of this kind were made, however, in all cases in which the cause of death did not appear obvious.

Mortality.—It is believed that all deaths from whatever cause should be reported. Notes of thirteen of our fatal cases appear here from histories. The facts in the three others are given from our tabular notes, but unfortunately the histories are missing. Copies of these are in the books of Evacuation Hospital No. 8.

REPORT OF CASES

Case 1.—G., who was in shock, had been wounded by two foreign bodies; the fifth and sixth ribs were splintered on their convexities. A major intercostal thoracotomy was performed, and both foreign bodies, which were loose in the chest cavity, having traversed the lung, were removed. The wound was clased without drainage. There was gas gangrene of the wound. It was at once opened widely and even debrided. The process appeared under control, but the sloughing entered an intercostal vessel and there was great hemorrhage. Transfusion was performed. This was followed by improvement, then gradual deterioration, and death four weeks after operation. Postmortem examination disclosed general gas infection.

Case 2.—F. had a nonsucking penetrating shell wound with two fractured ribs in the left chest. He was in shock, but a major thoracotomy was performed to find the foreign body and to remove rib splinters which had wounded the lung. The foreign body was removed. The patient died four days later of gas gangrene.

Case 3.—T., who was in shock, had fractured ribs and an open sucking wound. He died following simple closure of the wound.

Case 4.—P. was in shock. A machine gun bullet had wounded the inside of the mouth, fracturing the lower jaw near the median line. Another bullet had entered the left chest, fracturing the sixth and seventh ribs and coming to rest apparently in the pericardium, moving freely with each heart beat, as determined by fluoroscopy. Major thoracotomy was begun under local and continued under general anesthesia. The pericardium was explored after a searching of the entire right chest had disclosed wounds of the lung apparently of entrance and exit. No bullet was found in the pericardium, which was then sutured. There was no blood in the pericardium. Death occurred in a few hours, and postmortem examination disclosed the bullet in the right lower lobe of the lung. It had evidently lain against the heart and within its fluoroscopic shadow, and had not moved outside the shadow, though kicked by the heart at every beat. This case and Case 13 stimulated one of us (H. L.) to invent a method that might prevent such errors in diagnosis; it has been described under "Roentgenography."

Case 5.—T. had received a large sucking wound of the right scapular region. It was closed by muscle flaps. The patient died in three days.

Case 6.—G. had a sucking chest wound, which was repaired. There was complete paraplegia below the nipple line. The cord had been injured.

Case 7.—J.[2] had a foul wound. The chest was drained of 200 c.c. of decomposed blood. There were sepsis and pneumonia.

Case 8.—H. had received an abdominothoracic wound by a bullet entering the left back at the tenth rib. The bullet was seen in the right iliac region by roentgen ray. It was easily found wrapped in omentum and removed. There was hemoperitoneum from a large wound of the spleen, which was removed through a second (left) incision. The chest was not operated on. The patient died in three days of extensive gas infection of the left abdominal wound.

Case 9.—P. had a large foreign body in the upper lobe of the left lung—a piece of shell that had passed through the lower lobe. The patient had been in the shock ward for twenty-four hours and was not in good condition at operation, which was an easy major intercostal thoracotomy. The foreign body was removed and there was primary union of the wound, but on the fourth day, opposite lung pneumonia appeared, and the patient died three days later.

2. Tabular notes only. History not found.

CASE 10.—C. was operated on twenty-four hours after having received a gunshot wound just below the point of the left shoulder, in back. There was no wound of exit. The patient was in shock. He had been observed over night because he was too poor a risk for operation. Roentgenoscopy revealed a foreign body in the ninth space, near the spine. Intercostal thoracotomy and rib-spreading were performed for tension pneumothorax. The bullet was loose and easily removed. The upper lobe was atelectatic. The fourth rib was fractured. There was hemothorax. The patient died in three days of gas bacillus and streptococcus infection.

CASE 11.—S. had received multiple injuries of the left forearm, elbow and humerus. The missile entered the chest in the region of the left scapula; there was no wound of exit. The patient was too weak for an operation on the thorax. He died some days later from pneumonia of the opposite lung. There was no thoracic operation, except for a slight débridement.

CASE 12.—C. had had the seventh, eighth, ninth and tenth ribs fractured near the angles by a machine gun bullet. He had a "stove-in" chest and a sucking wound. The wound was sutured and the chest strapped. No radical operation was possible. The patient died in thirty-six hours.

CASE 13.—R. had received wounds in both sides of the chest, but a *large* foreign body, measuring 5 by 1 cm., was reported in the left chest. Large exploration, by intercostal thoracotomy, detected no foreign body, and the patient died on the table. Immediate examination revealed hematopericardium and a *small* foreign body within.

CASE 14.—D. had an infected bullet wound with fractured ribs. Thoracotomy was performed. The Welch bacillus was present. The patient died from pneumonia of the opposite lung. The wound had nearly healed eight days after operation.

CASE 15.—T.[3] had an open sucking wound of the back with rib fractures. After closure, he died in forty-eight hours.

CASE 16.—W.[3] had an open sucking wound with fractured ribs. Death occurred soon after closure.

SUMMARY

Of the total of sixty-seven thoracic cases that passed through our hands, sixteen, or 23.8 per cent., were fatal. Fifty-one of these patients were operated on, and fourteen, or 27.4 per cent., died. Sixteen patients were not operated on, and of these only one, or 6.2 per cent., died. This does not mean, however, that operation is responsible for the large proportion of deaths. Of the sixteen patients not operated on, four were in severe shock but with small wounds; one of these patients died. The other twelve apparently were cases that demanded no operative therapy. Yet it is recognized that infection and empyema may, in some cases, have developed after evacuation.

These statistics, together with what may be gathered from the preceding report, may be taken for what statistics are worth. They compare most favorably with the general figures in the literature.

CONCLUSIONS

1. The wounds seen in evacuation hospitals may be divided into two classes: (A) Those which demand repair of obvious injuries to the chest wall, such as large open wounds or extensive fractures of ribs with probable injury to lung. (B) Injuries to the lung, or large foreign bodies in the thorax which demand exploration.

Wounds in Class A shou'd be treated on ordinary surgical principles and the wound closed as well as possible. In the presence of large defects in the pleura, stopping the opening by suturing the inflated lung as a plug should be performed when there is not sufficient other tissue for the purpose.

Wounds in Class B should be operated on by what I have denominated major intercostal thoracotomy without resection of ribs. With the aid of a well constructed rib retractor an ample opening can be made through which all parts may be clearly inspected and through which operations on the lungs, diaphragm and most parts of the chest wall can be performed with comfort to the operator. In concluding the operation the ribs may be easily brought together and the pleura fully approximated by three pericostal sutures of absorbable material (kangaroo tendon or chromicized catgut). Whether or not there should be approximation of the skin is a matter to be decided in each case.

2. There may be combinations of Class A and Class B by extending an already large wound in any part of the chest. The principle of visual exploration with the aid of a rib spreader can be here applied.

3. Some kind of forced anesthesia, such as the intrapharyngeal method already referred to, is absolutely necessary in treating recent wounds of the thorax by full exploration.

4. All thoracic wounds should be under observation for not less than ten days at the evacuation hospital, and, even then, we are not sure that complications, mechanical or by infection, may not occur at a later period.

5. Pneumonia of the opposite lung is the greatest immediate danger in these cases. While its cause is unknown, we should guard the patients against cold and exposure, especially during the change of dressings.

ACUTE TRAUMATIC ATELECTASIS

Atelectasis has been frequently noted by operators, and we have never heard a satisfactory explanation. It usually occurs in the neighborhood of a wound and is far more than an ordinary collapse of the lung. It is usually unilobular, the lobe being contracted to its smallest possible size. The tissue feels soft and not infiltrated. I would suggest that animal experiments be undertaken to discover the cause of the atelectasis, and I would also advance the theory that it is a true spastic condition of the lung caused by visceral muscular contraction, often but not always in the effort of nature to draw the lobe away from a point of peripheral irritation.

Mental Diseases in New York During War Period.—H. M. Pollock, statistician of the New York State Hospital Commission, in an article on the subject named in the *State Hospital Quarterly*, February, 1919, published by the hospital commission, offers the following figures and conclusions: Comparing the admissions on account of mental diseases for the period 1911-1914 with the period 1915-1918, there was an increase in senile cases of 5.5 per cent., in general paralysis of 14.2 per cent., a decrease in alcoholic cases of 22.3 per cent., an increase of 17.5 in the manic-depressive and allied groups, an increase of 37.9 in involution melancholia cases, an increase of 42.9 per cent. in dementia praecox and allied forms, and a decrease of 12.5 per cent. in the psychoneuroses. It can reasonably be inferred that the war, like all great emotional disturbances, has been a precipitating factor in the causation of some forms of mental disease among the civilian population. Patients under treatment in the institutions for the insane in the state increased more rapidly during the war. The increase was due in part to the accumulation in the hospitals of deportable aliens. The ratio of first admissions to the general population of the state increased during the war period. The rate of alcoholic insanity decreased during the war, especially in the years 1915 and 1918.

EFFECTIVE MALARIA CONTROL IN A RICEFIELD DISTRICT

WITH OBSERVATIONS ON EXPERIMENTAL MOSQUITO FLIGHTS

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In a previous publication,[1] there was given in detail the endemicity of malaria in two rice districts, one in Louisiana and one in Arkansas. In the Arkansas district, known as the Extracantonment Zone, Ebert's Field, and including the town of Lonoke, various intensive control methods have been used continuously during the year 1918.

LOCATION

The field is located about one-fourth mile west of the western limits of Lonoke, a town with a population of approximately 1,500. The field was located in an area used during 1917 for the cultivation of rice, and the area to the west and south is now used exclusively for rice cultivation.

TOPOGRAPHY

The entire area is flat with very slight slopes toward the streams and the divides undetermined. The top soil is what is commonly called gumbo, underlaid at a depth of 2 or 3 feet with an impervious clay stratum. Owing to the flat slopes and the impervious character of the soil, natural drainage is poor.

RICE CULTURE

From a topographic and geologic standpoint, the section is particularly well adapted to rice cultivation, and the greater part of the prairie land is under cultivation, as shown in the accompanying chart. With the establishment of the Flying Field, an agreement was made whereby no rice should be cultivated within 1,500 feet of the boundaries of the field, thus bringing the first ricefield to the west 1 mile from the barracks and to the south three-fourths mile from the nearest camp building.

The results that we are recording in this short article are remarkable, for malaria has been entirely eliminated among the civilian population, in spite of the fact that for the previous summer the history incidence index demonstrated the prevalence of chills and fever in twenty-nine out of every 100 inhabitants.

METHODS OF CONTROL

The principal methods adopted to control the disease were: (1) sterilization of carriers to prevent infection of mosquitoes; (2) screening, to prevent the access of mosquitoes to men, and (3) limitation of the production of mosquitoes, as far as was found practicable.

1. *Human Carriers.*—Two separate blood indexes (thick smears) were made of every resident in the Lonoke district. The taking of these indexes required a large amount of educational work in the community, in order to develop the spirit of cooperation, for we were operating in a community in which malaria control and laboratory diagnostic methods had never been used before, and a natural individual tendency existed against the taking of blood smears. The index results recorded in a previous article were low but interesting, if one compares the gradual seasonal increase and the evident importance of the carrier in the malaria case rate for the coming summer. The taking of blood smears and the checking up of the residents were accomplished by making card indexes of the occupants of each house, store and building. As far as possible, examinations were made of new residents, also.

Quinin Sterilization of Carriers: Of the persons from whom thick blood smears were taken, ninety were found on microscopic examination to be carriers, every one of whom was treated with quinin in capsules by mouth, a dose being 10 grains a day, preferably taken at bedtime. Each carrier treated was followed for thirty days so as to make certain that the treatment was actually carried out. At the end of thirty days, individual patients were given quinin sufficient for a like period of time, with instructions to use as in the first period. Of the entire number, only 10 per cent. followed out in its entirety the treatment of 10 grains a day for the sixty days. We were checking the discovered carriers microscopically each month, so, what with laboratory methods and a careful study of their history, there was no possibility of our missing any relapses in any given patient. The last blood examination was made in September, all carriers proving negative.

Peculiarity of Carriers: Not all of the foregoing carriers were discovered at the initial time of the making of the indexes. In five cases, the second dose of typhoid vaccine precipitated a chill, which prompted us to examine the blood. In all, many plasmodia (signet rings) were found. The blood of these patients had proved negative twice before. The same result was obtained when another carrier had been vaccinated against smallpox, evidence of a positive "take" having just been noticed. Why the second dose of typhoid vaccine and not the first or third precipitated a paroxysm is an interesting problem.

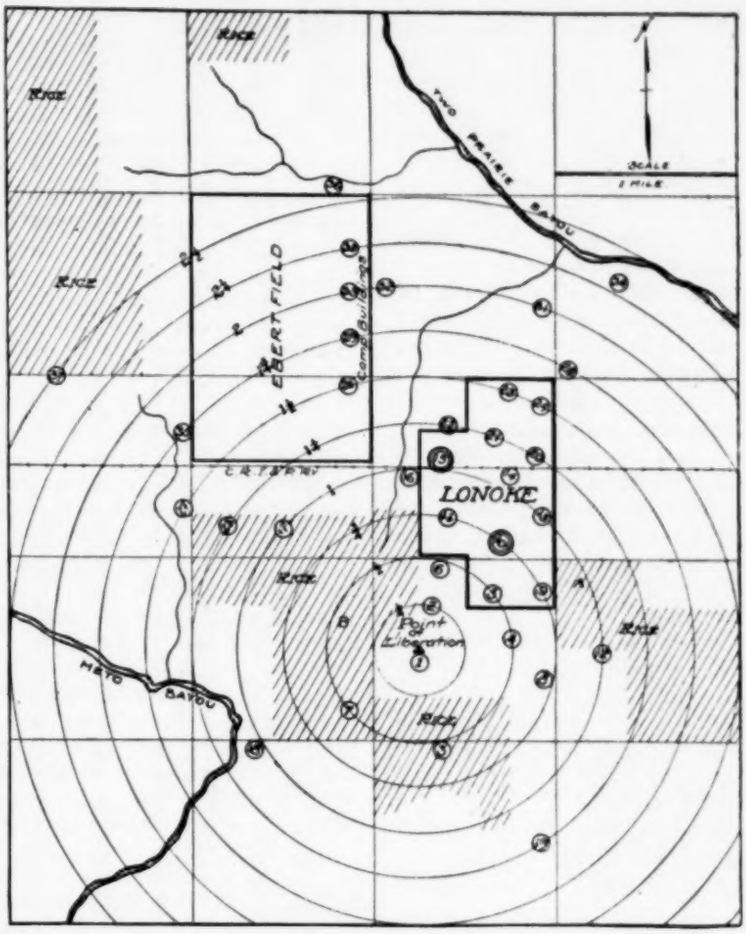
The results on the same people as shown by the indexes point to a seasonal variation, which is important if one should desire information as to the maximum malaria incidence. Many carriers showed parasites curiously resistant to the stain. Active exercise and fatigue evidently played an important rôle in the appearance of parasites in the peripheral blood. In some cases among new residents who had previously given a typical history of chills every other day and whose blood was negative on microscopic examination, the blood became frankly positive under these physical conditions. This may explain why, in the case of two untreated carriers examined every day for a month, in one we were able to obtain only two additional positives and in the other only three. The observed fact, as regards these two carriers, that the positives were obtained near the evening hours, with negative results in the morning, is likewise interesting. Probably the most important peculiarity of the malaria carriers was the fact that in nineteen there was absolutely no history of chills and fever or of any symptoms suggesting malaria, active or latent, in the previous three years.

1. Geiger, J. C.; Purdy, W. C., and Bates, L. I.: Malarial Endemicity of the Rice Districts of Louisiana and Arkansas, J. A. M. A. 71: 1283 (Oct. 19) 1918.

2. *Screening.*—Beginning in January, and following a house to house survey, requirements for screening, including specifications as to the size of mesh, namely, from sixteen to eighteen meshes to the inch, were published and a definite date set for complete fulfilment. All public buildings in which any gatherings at night would occur, such as churches, were required to install vestibuled screened doors in addition. No open-air gatherings were allowed. On the basis of reasonable screening, negro cabins were separated into three possible classes, uninhabitable, repair possible, and good. Monthly inspections of screening were made. The importance of this control measure is obvious when one considers that only 10 per cent. of houses, stores and buildings had met the requirements at the time of the initial inspection.

3. *General Measures.*—For mosquito control operations it has been assumed that the area within which operations must be carried on shall extend at least 1 mile beyond the limits of the area to be protected. On this basis the control area necessary for the protection of both Ebert's Field and the city of Lonoke comprises approximately 13 square miles, which area includes both the field and the city.

Control by Drainage: With the exception of the bayous, the streams in the area had no well defined channel or bed. Surface drainage, in fact, practically all the drainage from the ricefields, was taken care of by road ditches. These ditches were faulty in construction and in many cases were without outlets.



Location of catching stations.

The work necessary, in order that the water surfaces might be reduced to a minimum and the proper conditions maintained for efficient control over mosquito breeding, required the clearing and channeling of the existing waterways, the clearing of old ditches, and the construction of new ditches that were necessary for the draining of swamp areas and for the prompt removal of water from the ricefields. This work required the clearing of 10 miles of stream-bed and the ditching of 60 miles of ditches varying in depth from 8 inches to 3 feet.

Control by Oiling: With the commencement of breeding, during the latter part of April, oil control measures were instituted, and from that date until the close of the breeding season all water surfaces within the area, with the exception of the ricefields proper, were sprayed with oil at intervals not greater than seven days. Owing to frequent breaking of ricefield levees, intentional and unintentional, and the discharge of water containing mosquito larvae and pupae, close inspection and frequent applications of oil were required, in order to prevent production. Constant inspection was made in checking the results of the control work.

While control measures did not affect breeding within the ricefields, they did confine all breeding to these rice areas. With these prolific breeding places present within the district, entire absence of mosquitoes could not be expected; but local information showed a marked decrease in numbers over those of previous years.

Control of mosquito production being humanly impossible so long as the ricefields were within flight distance of any and all parts of the area, it is interesting to compare the mortality and the history incidence of malaria in 1917 with the case reports, mortality and September check index of 1918. In 1917, there occurred four deaths from malaria in the control area against none in 1918. The history incidence index, 29 per cent., or, expressed in the number of cases, 522, the only available record for 1917, when compared with the actual development of only one case in 1918, is conclusive proof of the efficiency of the control.

This is remarkably demonstrated by the September check index (thick smears) taken of every resident in the area, the result giving a percentage of 1. As final evidence there were the continuously negative findings of infection on dissection of *Anopheles quadrimaculatus*, the only *Anopheles* breeding in the area.

In order that a comparison of results obtained in the September check index might be made with the results obtained in communities adjoining but outside the control area, indexes were made on two uncontrolled bayou bottom sections. The results of these indexes, based on a limited number of persons, showed 7 per cent. in one case and 4.5 per cent. in the second.

Since in spite of the attempt to control production, *A. quadrimaculatus*, recognized as an efficient vector of malaria, was present in large numbers about the residences of the community (as may be seen from Table 1 illustrating the flight experiments), this diminution of malaria can be ascribed only to screening and the sterilization of the human carriers—the latter being probably the main factor.

FLIGHT EXPERIMENTS

May 25 ricefields A and B were flooded. After an interval of from fifteen to twenty days, and before any of the other fields in the area were flooded, *A. quadrimaculatus* was observed more or less throughout the city and in the area adjoining and to the east of the aviation field. Since control measures within the zone were at that time excellent, it was most probable that the mosquitoes observed came from the ricefields just mentioned, in which fields production was great. If this was the case, the flight distance was as great as 1 7/10 miles, a distance considerably greater than that observed by Le Prince and Griffitts[2] in South Carolina, where the greatest distance found was slightly greater than 1 mile.

In order that these observations as to flight might be checked, flight experiments were planned.

Any flight experiment in this section would of necessity be of a somewhat more complicated nature than an experiment conducted in a rural community, since here we have a compact community of 1,500 people within 1 mile of a camp of 1,200 men, affording a maximum of available food material.

The experiment consisted of catching, staining and liberating at a given point *Anopheles quadrimaculatus* mosquitoes, and the recatching for examination at given distances from the point of liberation, these distances being at one-fourth mile intervals. The time interval between liberation and the start of recatching was set at sixty hours.

The experiment was begun, August 27, on which date approximately 5,000 mosquitoes, all of which were *A. quadrimaculatus* and about four fifths of which were females, were caught. Practically four fifths of the mosquitoes were caught in sheds and on screens at Stations 5 and 9, and the balance at Stations 32 and 36, as shown in the chart.

After catching, the mosquitoes were put in containers made from lantern globes, the open ends being covered with bobbinet, and were later transferred to the laboratory for staining.

The mosquitoes within the lantern globe containers were stained by spraying them through the bobbinet mesh with an atomizer.

A 1 per cent. eosin solution was first tried, but it was found that this stain was not readily discernible on examination of the sprayed mosquitoes. A 1 per cent. aqueous solution of methylene blue was found to give more satisfactory results, and this stain was therefore used.

As would be expected, a certain number of mosquitoes were killed, owing to heat, confinement and other causes, but, at the time of liberation (nine hours after catching), approximately 4,000 were alive and active.

The stained mosquitoes were liberated at dusk at a point southwest of the city, near one of the flooded ricefields, this point being shown on the chart. At the time of liberation, the weather was clear and warm, and only light air currents from the southwest were prevalent.

A period of sixty hours elapsed between the time of liberation and the beginning of the recatch, the weather conditions remaining unchanged during this interval.

Recatching was started on August 30, and was continued through the period to September 7. During the period of the recatch, the weather conditions changed to cloudy with some rain, September 2, 3 and 4, remaining cloudy on the 5th and 6th, and clearing on the 7th. During the period of recatch, there was no wind, and such air currents as existed were from the southwest.

TABLE 1.—FLIGHT EXPERIMENTS

Distance from Liberation Point	Station	Date of Collection	Number Caught: Anopheles Male	Anopheles Female	Culex	Remarks
0	1	Aug. 31	30	355	14	Farm buildings
¼ mile	2	Aug. 31	34	111	3	Outbuildings
½ mile	3	Sept. 5	67	1,500	20	Farm buildings
	4	Sept. 5	205	1,469	87	Outbuildings
	5	Aug. 30	308	538	90	
		Sept. 3	429	559	53	Outbuildings and about houses
	6	Aug. 30	3	21	0	
		Sept. 3	20	96	4	
	7	Sept. 5	95	2,155	58	Farm buildings
¾ mile	8	Sept. 5	458	2,018	41	Farm buildings
	9	Aug. 30	95	166	3	
		Sept. 3	84	599	0	
		Sept. 7	19	44	3	
	10	Aug. 30	60	126	1	Outbuildings and about houses in town
		Sept. 3	10	157	2	
	11	Aug. 30	30	170	0	
		Sept. 4	32	37	2	
1 mile	12	Sept. 7	68	392	3	Farm buildings
	13	Aug. 30	179	144	3	Outbuildings and about houses in town
		Sept. 4	76	367	6	
	14	Sept. 4	0	0	0	
	15	Aug. 30	77	291	40	Outbuildings and about houses in town
		Sept. 3	7	57	5	
	16	Aug. 30	1	9	1	About rice mill
		Aug. 31	20	71	4	About rice mill
	17	Aug. 31	6	73	0	Farm buildings
	18	Sept. 7	5	37	0	Farm buildings
1¼ miles	19	Sept. 5	122	1,505	7	Farm buildings
	20	Sept. 4	45	161	21	
	21	Aug. 30	31	97	14	
		Sept. 4	14	61	3	Outbuildings and about houses in town
	22	Aug. 30	47	218	5	
		Sept. 3	2	13	3	
		Sept. 4	21	47	1	
	23	Aug. 31	22	340	5	Farm buildings
1½ mile	24	Sept. 4	66	94	3	
	25	Aug. 30	1	6	1	Outbuildings and about houses in town
		Sept. 4	21	38	3	
	26	Aug. 30	14	46	4	Ebert Field hangars
		Sept. 7	17	136	13	Ebert Field hangars
	27	Aug. 31	10	143	11	Farm buildings
1¾ miles	28	Aug. 31	6	34	0	About buildings
	29	Aug. 30	23	44	3	Ebert Field hangars
	30	Aug. 31	3	45	0	Farm buildings
2 miles	31	Aug. 31	34	35	0	In woods
	32	Sept. 5	22	64	1	In old house
	32	Aug. 30	141	416	6	In old house
	33	Aug. 30	11	26	0	Ebert Field hangars
2¼ miles	34	Aug. 31	57	128	5	In woods
	35	Aug. 30	17	38	3	Ebert Field hangars
2½ miles	36	Aug. 30	20	208	4	Farm buildings
	37	Aug. 31	124	410	48	Farm buildings
Total			3,319	15,915	597	

Recatches were made at points or stations located at definite distances from the point of liberation, and at distance intervals of one-quarter mile. Each collection station included a group of buildings, and mosquitoes were caught in sheds and stables, under houses and on screens.

Catches were made at thirty-seven different stations located as shown on the chart. As will be noted, the greater number of the stations are located to the north, since here was the greater congestion of possible food material. The stations to the west and south

2. Le Prince, J. A., and Griffitts, T. H. D.: Flight of Mosquitoes, Pub. Health Rep. 32:656 (May 4) 1917.

represent every group of farm buildings within the area. At all stations at least one catch was made, while at several stations two or more catches were made on different dates. Table 1 gives the detailed information as to catches and types of mosquitoes caught. No attempt was made to catch any except *Anopheles*, but, as would be expected, a few *Culex* mosquitoes were included.

The total number of mosquitoes caught, by distance from point of liberation, may be seen in Table 2.

TABLE 2.—DATA AS TO LENGTH OF FLIGHT

0	399
¼ mile	148
½ mile	7,789
¾ mile	4,157
1 mile	1,942
1¼ miles	2,806
1½ miles	617
1¾ miles	158
2 miles	756
2¼ miles	248
2½ miles	814
Total	19,831

Examination of mosquitoes was made by adding a drop of solvent (alcohol, 3 parts; glycerin, 3 parts; chloroform, 1 part) to each mosquito placed on glass over a white back ground and by then observing evidences of the color by use of a small magnifying glass. At the time of examination for stain, observations as to the type and sex were made.

RESULTS

Of the total number examined, only ten were found showing evidences of stain, these all being caught on August 30, the first day of catching. Nine of these, all female *Anopheles*, were found on the screens of one house at Station 10, three fourths of a mile from the point of liberation, indicated on the chart by a concentric circle. One was found on the screen of a house at Station 15, one mile from the point of liberation.

Of the total of 19,831 mosquitoes, 19,238, or 97 per cent., were *Anopheles quadrimaculatus* and 597, or 3 per cent., *Culex*. But one type of *Anopheles* was caught, *A. quadrimaculatus*, confirming other observations that this is the one type of *Anopheles* found in this section during the summer months. Of the 19,238 *Anopheles*, 15,915, or 82.7 per cent., were female. While this percentage is that of the total, the percentage varied considerably for the various stations, and at one station in particular, Station 13, the reverse condition prevailed, as males predominated on one day.

In catching for staining, approximately four fifths of the mosquitoes were caught at Stations 5 and 9; and of the ten stained mosquitoes found, nine were caught at Station 10 or in the same general neighborhood. This brings up the question of the homing instinct observed by Carter, Le Prince and Griffitts.

At the stations in and near the ricefields, *Anopheles* was present in large numbers, and catching was carried on for not over one-half hour period at each station. As the distance from the ricefields increased, the number found decreased; and the time spent in a district increased, with a relatively lower catch.

From the results obtained it would appear that in this section at least a flight of 1 mile might be expected, but that with a fairly densely populated district there would be a dissemination of mosquitoes throughout the entire district.

CONCLUSIONS

1. Malaria has been eliminated from a typical ricefield district.

2. The question of flight of *Anopheles quadrimaculatus* may of necessity be regarded from two angles, that of experiment and that of observation. In one, the largest experiment of its kind ever undertaken in the United States, we have a record flight of 1 mile. In the other observation, there has been recorded continuously and on different occasions a flight of $1\frac{7}{10}$ miles.

3. The use of 10 grains of quinin sulphate by mouth for sterilization of the blood of malaria carriers is evidently efficient for one malaria season if used actively over a period of thirty days.

4. The completely negative clinical history of the nineteen malaria carriers discovered on microscopic examination indicates, on the one hand, an immense difficulty in obtaining complete malaria control but emphasizes, on the other hand, the importance of the detection of the human carriers.

PROPHYLACTIC USE OF MIXED VACCINE AGAINST PANDEMIC INFLUENZA AND ITS COMPLICATIONS

AT THE NAVAL TRAINING STATION, SAN FRANCISCO

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The fact that the recent influenza pandemic did not reach the Pacific Coast until about October 1, or more than a month after its appearance in the East, gave time to attempt a defense against it. The problems presented to Commander P. S. Rossiter, senior medical officer, of that period, were: (1) to prevent the entrance of the disease on the station, and (2) to prevent or lessen its spread and complications, should it appear among the personnel.

The U. S. Naval Training Station, being located on an island in San Francisco Bay, more than a mile from either San Francisco or Oakland, made an absolute isolation possible. This was maintained during the height of the epidemic, except for a very rigidly guarded supply boat making trips to San Francisco. To accomplish the second object, daily throat sprays of argyrol, 10 per cent., were administered to every person, and steps were taken to produce a prophylactic vaccine.

The reports available at the time from stricken camps and districts showed a great diversity of opinion as to the exciting cause, but there was general agreement as to the pneumococcus and hemolytic streptococcus being largely responsible for the fatal complications. The recent work of Cecil and Austin [1] at Camp Upton, confirming the observations of Lister,[2] had shown that a high degree of immunity can be produced against pneumonia by prophylactic vaccination.

1. Cecil and Austin: J. Exper. Med. **28**: 19-41 (July) 1918.
2. Lister: South African Inst. for Med. Res., Pub. 2, 1913; VIII, 1916; X, 1917.

Although there was difference of opinion as to the etiologic relationship of the influenza bacillus in this disease, and the possibility of conferring immunity against it,[3] a culture of *B. Influenzae* from a fatal case was obtained from the Rockefeller Institute to incorporate in a mixed vaccine.

After receiving the culture of *B. Influenzae* from the Rockefeller Institute, it was found most difficult to reproduce good growths with our ordinary human blood agar, prepared for meningococcic cultures. Therefore, other mediums were prepared and tested, such as streaked blood agar, laked blood agar (human) and rabbit's blood agar; but since the human blood agar titrated neutral to phenophthalein and gave a growth much inferior to that of the rabbit's blood agar of the same reaction and percentage of blood (10 per cent.), and, furthermore, when it was observed that blood from different human donors gave variable growths, from barely perceptible to rather easily discernible colonies, and that the bacilli varied from the fine, minute, evenly stained rods to most bizarre forms, it was concluded that the human blood contained natural immune bodies in varying amounts.

It was found that with any of the foregoing methods in order to grow a sufficient quantity of bacilli quickly to make up vaccine for our needs (20,000 c.c.), a different medium was required. Following a suggestion of Professor Hall of the University of California, the human blood agar when cooled was cooked in a Freas dry oven at a temperature of from 100 to 115 C. or until it changed to a rich chocolate brown; in fact, it was found that even when this agar was apparently overcooked, luxurious growths were secured. Whether this result was due to the destruction of the natural immune bodies, or to a liberation of the hematin from the blood, or to both, remains to be settled. Suffice it to state that with this medium not only could subcultures be easily grown, but also primary cultures from lungs, sputum and postnares demonstrate the presence of *B. influenzae* in easily recognizable colonies. To obtain pure cultures of the pneumococci, human blood agar gave best results, while for vaccine, 2 per cent. glucose bouillon gave ample growths.

The streptococci were grown and gathered from blood agar, 15 per cent. human blood, centrifuged and washed (both washed and unwashed were tried with very little difference noted) and diluted in a 0.5 per cent. phenolized salt solution.

For the gram-positive bacteria the standardizing was done by using Wright's method and counting chamber; the influenza bacilli were counted by ratio with standardized pneumococci.

To arrive at a safe, though effective, dosage of the foregoing bacteria, it became necessary to ascertain if possible on laboratory animals the toxicity of each individually. For *B. influenzae*, the guinea-pig was used, first with dead, and later with live bacilli, neither producing any apparent serious effect in comparatively large doses (3 billion). This coincided with the results of Delius and Kolle's[4] experiments on laboratory animals.

For *Streptococcus hemolyticus*, volunteers were used, 60 million organisms producing no untoward symptoms. The report of Cecil and Austin covering their studies in connection with pneumococcic vaccination of over 12,000 men demonstrated that no ill effects were encountered, that large doses were necessary to give full protection, and that the degree of immunity depended more on the dosage than the interval.

Based on the foregoing considerations, the final composition of the vaccine for each cubic centimeter was decided on as shown in Table 1.

TABLE 1.—COMPOSITION OF MIXED VACCINE

	No. of Bacteria
B. influenzae, Rockefeller strain	5 billion
Pneumococcus Type I, various strains	3 billion
Pneumococcus Type II, regular and irregular, various strains	3 billion
Pneumococcus Type III, one strain	1 billion
Streptococcus hemolyticus, two strains	100 million

These were sterilized separately for an hour at a temperature of 56 C., and then mixed with 0.5 per cent. phenolized salt solution to make the desired amount.

In addition to the foregoing vaccine as suggested by the experiments of Whitmore, Fennel and Petersen,[5] an attempt was made to prepare a lipovaccine: Definite quantities of each culture in the proportions mentioned were removed from plates, dried at 55 C. for one and one-half hours, and then triturated by hand under sterile conditions for eight hours, being moistened with ether from time to time. When completed, microscopic examination revealed a homogeneous mass with no bacterial forms.

To weighed portions of this powder, a sterile mixture of 10 per cent. lanolin in oil of sweet almonds was added and again triturated for three hours; each cubic centimeter of this mixture contained 2 mg. of the bacterial powder.

The effects of this mixture were first tried on a guinea-pig, 1 c.c. being injected with no serious results. Next, five members of the laboratory force were each inoculated with 1 c.c. Their reactions were slightly more severe than the sixteen referred to later, but none lasted more than seventy-two hours. The number of their leukocytes was increased from 4,000 to 8,000, and their serums agglutinated *B. influenzae* 1:200. The injection caused considerable local induration lasting about ten days, but there was no abscess formation.

OBSERVATIONS ON THE VACCINE

Owing to the fact that there were no reports at that time on the use of a mixed vaccine against pandemic influenza, 100 volunteers were given 0.3 c.c. as an initial dose, followed after three days by 0.6 c.c. and two days later by 0.8 c.c. However, before this was done, the temperature of each man was taken and recorded, the urine examined, and the blood from all was used to make a white and differential count. From sixteen men blood was drawn to make agglutination tests with *B. influenzae*, pneumococcus and streptococcus. Eight hours after the first inoculation the temperatures were again taken, with these results:

Before: 98.6 F., 90 men; 99. F., 8 men.

After: 98.6 F., 70 men; from 99 to 100 F., 18 men; 101 F. and over, 5 men.

The white and differential counts evidenced appreciable increase in the polymorphonuclear leukocytes, as illustrated by Table 2.

3. Scheller: Handbuch der pathogenen Microorganismen **5**: 1292, 1913.

4. Delius and Kolle: Ztschr. f. Hyg. u. Infektionskrankh. **24**, 1897.

5. Whitmore, E. R.; Fennel, E. A., and Petersen, W. F.: An Experimental Investigation of Lipovaccines, J. A. M. A. **70**: 427 (Feb. 16) 1918.

The reactions recorded twelve hours after the first injection were: trivial, 40; moderate, 53; severe, 8. Trivial signifies headache, very often combined with giddiness and malaise; moderate, headache, backache, chill and slight rise of temperature; severe, all the foregoing symptoms intensified by higher fever,

TABLE 2.—WHITE AND DIFFERENTIAL COUNTS

Before		After	
White Count	No. of Men	White Count	No. of Men
6,000 to 8,000	40	6,000 to 8,000	1
8,000 to 10,000	56	8,000 to 10,000	47
10,000 to 12,000	3	10,000 to 12,000	48
		12,000 to 16,000	3
Differential Count Polymorphonuclear		Differential Count Polymorphonuclear	
60 to 70 per cent.	54	60 to 70 per cent.	48
70 to 80 per cent.	46	70 to 80 per cent.	54

depression and general asthenia associated with multiple pains, in some cases sufficient to require medical aid.

The blood of sixteen of these men was secured for agglutination with *B. influenzae* of the type with which they were inoculated, with the results given in Table 3.

Agglutinations with pneumococci and streptococci were unsatisfactory. There was no change in the urinary findings.

As it was considered that the results of the preliminary experiments were satisfactory, general inoculation began, October 12. The vaccine was administered subcutaneously at about the insertion of the deltoid muscle in doses of 0.5, 0.8 and 1. c.c. at three day intervals. In all, 11,179 persons were inoculated, composed of four distinct groups.

1. There were 4,950 persons in quarantine at the Naval Training Station, 171 being hospital corpsmen, transferred after a few days to duty in military and civilian hospitals for influenza cases.

2. At Mare Island Navy Yard there were 1,950 marines released after inoculation, ninety-nine hospital corpsmen on duty in the hospital, and forty civilian employees with unrestricted liberty in the adjacent cities.

3. At the Naval Training camp, San Pedro, Calif., there were 3,100 officers and men with liberty in Los Angeles and vicinity.

4. Finally, 1,040 civilian relatives and friends of the personnel of the Naval Training Station inoculated at our shore dispensary, living in San Francisco and vicinity, constituted the fourth group.

A careful record of all inoculated persons showed in the majority a moderate local induration, with some headache, general pains, and slight rise of temperature beginning about six hours after inoculation and abating within thirty-six hours. These symptoms were most marked following second injection. In no case did the constitutional symptoms persist after forty-eight hours.

RESULTS

By means of circular letters, personal investigations, official reports from localities, and from extended reports of inoculated persons during October and November, Table 4 was compiled. In discussing the results tabulated, we can safely omit from consideration the 4,950 men of the Naval Station because they were in quarantine during the height of the epidemic and therefore not exposed. No cases of pandemic influenza occurred during this period, and twenty-four days after release from quarantine, when there were still from 200 to 300 cases being reported daily in San Francisco, only fifteen cases of influenza developed in a personnel of 3,514. These fifteen cases were mild. There was no pneumonia and no fatality.

The inoculations of the 1,080 of the civilian population were completed October 16, which was twenty-one days after the epidemic began in San Francisco, and the incidence and mortality figures for the city represent the period of time, beginning with the inoculation and running until December 1, when the original epidemic subsided. They circulated freely in San Francisco and Oakland during the epidemic and in fifty-four instances assisted actively in the care of their stricken relatives, and apparently escaped the disease. Furthermore, the small number of this group who developed influenza had very light attacks.

The 1,950 marines were inoculated about October 20, about a week after the epidemic began, and were

TABLE 3.—AGGLUTINATIONS

Before Inoculation	No.	Five Days Later	No.
No agglutination at any dilution	2	No agglutination at any dilution	2
Agglutination at 1:30	7	Agglutination at 1:200	14
Sug. agglutination at 1:100	2		
Sug. agglutination at higher dilutions	0		

immediately released in Vallejo and San Francisco where the disease was at its height, and owing to the fact that statistical reports were not submitted to the Public Health Service, the personnel of the Mare Island Navy Yard seemed to furnish a fair comparison. Incidentally all of the severe cases developed within ten days after the last inoculation.

The low incidence of the disease in the inoculated persons can only be appreciated when we compare with it the morbidity and mortality of the large population with whom they associated at the same period. We also ask attention to the low incidence of disease of our inoculated hospital corpsmen detailed in military and civilian hospitals in San Francisco, in comparison with the nonvaccinated civilian nurses exposed to the infection under identical conditions.

TABLE 4.—STATISTICAL DATA

Uninoculated Persons	Population	Influenza No. of Cases	Influenza Per Cent.	Mortality No.	Mortality Per Cent.
San Francisco and Oakland	625,000	33,065	5.3	3,035	9.2
Mare Island Navy Yard	8,232	1,296	15.7	65	5.0
Nurses and attendants, San Francisco hospitals	550	186	33.8	4	2.1
Los Angeles	600,000	9,124	1.5	612	6.6

Inoculated Persons	Number	Influenza No. of Cases	Influenza Per Cent.	Mortality No.	Mortality Per Cent.
San Francisco civilians	1,080	14	1.4	0	0.0
Marines at Mare Island	1,950	35	1.8	1	2.8
Hospital corpsmen on duty in influenza wards	270	9	3.5	1	11.0
Naval Camp, San Pedro	3,100	53	1.7	0	0.0

The 3,100 men from San Pedro Naval Camp were inoculated about November 15, at which time the epidemic was in its recrudescence in Los Angeles and vicinity, and the figures given represent only the cases reported in Los Angeles during the period of twenty-four days following inoculation of the men.

Additional evidence that the men responded to the inoculation of the vaccine was furnished by serologic tests conducted with the strain of *B. influenzae* that had been used in their vaccine. On account of the

men being transferred, it was impossible to follow the same group of men in all tests. Agglutinations were made with serum diluted from 1:50 to 1:400; but basing our opinion on our comparative experience, we felt that an agglutination in a dilution of 1:100 should be considered positive.

In Groups 3, 4 and 5, agglutination was also attempted in similar dilutions with a local strain of *B. influenzae* obtained from routine throat cultures on the station during the quarantine. The results are shown in Table 5.

TABLE 5.—AGGLUTINATION TESTS

	No. of Men	Days after Inoculation	Agglutinations	
			Positive	Negative
Group 1	16	5	14	2
Group 2	39	30	33	6
Group 3	11	40	1	10
Local strain	11	40	0	11
Group 4	10	50	5	5
Local strain	10	50	0	10
Group 5	6	70	2	4
Local strain	6	70	0	6

CONCLUSIONS

The facts presented undoubtedly indicate that a noteworthy degree of protection against influenza and its complications was obtained by means of a mixed vaccine freshly prepared from predominating etiologic bacteria. These observations should also encourage further work along the line of immunity against pneumonia. To this end an attempt is now being made to regroup the Type IV pneumococcus with the object of adding it to a vaccine when needed.

ABDOMINAL COMPLICATIONS OF THE INFLUENZA EPIDEMIC AT CAMP CUSTER, MICH.

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The abdominal complications of the epidemic of influenza in October, 1918, present problems of interest in diagnosis and treatment. The clinical pictures varied so greatly that a grouping of the cases will be of value.

ABDOMINAL RIGIDITY AND TENDERNESS

The question frequently arose as to whether the boardlike rigidity and tenderness of one or both upper quadrants of the abdomen was due to acute abdominal affection or to muscle spasm from lesions of the chest.

Some of these cases were seen in the first twenty-four hours of the disease, before the physical signs of a pneumonia or of a pleurisy were sufficiently evident to make a positive diagnosis, all available methods, including the roentgen ray, being employed. The upper abdominal pain, with or without accompanying rigidity, which is seen in acute thoracic disease, has always been held to be reflex. Two cases of pneumonia following influenza showed at necropsy localized fibrinous subphrenic peritonitis of limited extent early in the disease, and it seems certain that there is an actual pathologic basis for at least some of these cases of upper abdominal rigidity.

PAIN IN THE RIGHT LOWER QUADRANT

A number of patients were either admitted directly to the surgical wards or seen in consultation in the medical wards for pain in the right lower quadrant. Pain of a dull, aching character referred to the right lower quadrant was the most prominent feature. On examination there was only slight rigidity in a small number, and in the majority there was tenderness over the region of the appendix, but no rigidity. These abdominal signs and symptoms might ordinarily be diagnosed as appendicitis. However, it was repeatedly observed that the local abdominal signs disappeared in a short time; more rarely they persisted and increased in severity so that operation was deemed imperative. This group occurred in influenza patients, nearly all of whom later showed demonstrable signs of bronchopneumonia.

Another group, occurring during the epidemic, neither accompanied nor followed by pneumonia, was made up of a small number of fulminant cases of appendicitis. Operation seemed imperative and was performed under local anesthesia with good results.

PERITONITIS

Of 140 cases of bronchopneumonia following influenza coming to necropsy in all stages of the disease, six (4.2 per cent.) have shown acute peritonitis. Of the six cases, two manifested themselves as local inflammations in the upper left quadrant and were characterized by flakes of fresh fibrin adherent to the spleen and the contiguous surface of the diaphragm. The four remaining cases were generalized. One was extensive, 1,000 c.c. of thick greenish yellow pus being present in the abdomen. Another showed only a few cubic centimeters of pus, and, though generalized, the site of the greatest change was on the adjacent surfaces of the liver and diaphragm. In a third case there was no fluid, but a delicate coat of fibrin formed a layer over the surface of the stomach and the intestinal coils. A fourth case of generalized peritonitis will be referred to under subphrenic abscess. The fact that the process was twice localized to the upper quadrant, and once, while occurring generally distributed throughout the peritoneum, appeared most advanced over the hepatic surface, suggests an origin by direct extension through the diaphragm. In three cases there was a concurrent accumulation of pus on the corresponding pleural side of the diaphragm. On the other hand, a bacteremia was demonstrated in two of the cases during life, and in the heart's blood at necropsy of all except one (this patient had previously been embalmed). In every instance a hemolyzing streptococcus was recovered. In two of these cases pericarditis was an accompanying finding, and in one, jaundice was present. In addition to a bronchopneumonia, which was in most cases resolving, pleurisy was present. It seems certain, therefore, that with hemolytic streptococci in the blood stream and the accompanying involvement of other serous membranes, the peritoneal infection was hematogenous in origin and did not in all cases originate by the more difficult transdiaphragmatic route. In none of these cases was the appendix or gallbladder the site of any change except on the serous coat, as an incident to the general infection of the peritoneum.

After the first inflammatory reaction, a streptococcus infection is prone to proceed even to the point of a large amount of purulent exudate with only a few localizing symptoms or signs. Extensive exudate in the chest cavity is at times found only after the most critical routine examination when there are no signs or symptoms referable to the chest. Similarly a diffuse purulent peritonitis may be present as a part of a generalized infection without attracting especial attention to its presence through the symptoms usually associated with this condition.

In five of the six cases of peritonitis that were found at necropsy, a diagnosis of such a complication was not made during life, although these patients were carefully and repeatedly examined with the possibility of abdominal lesions in mind. The peritonitis was not secondary to any demonstrable abdominal focus, but apparently was merely one manifestation of generalized infection, which frequently was also evident in pleura and pericardium. Suppurative peritonitis was not found in necropsies in the early fulminating cases of the epidemic, but appeared as a part of the late postpneumonic complications, five of the six cases being found in the last thirty necropsies. The early occurrence of deaths did not afford time for the development of this condition. A similar group of cases was noted during the severe infections in the early part of 1918.

SUBPHRENIC ABSCESS

Two cases occurred during the latter portion of the present epidemic which show the necessity of thorough routine examinations:

REPORT OF CASES

CASE 1.—A soldier, admitted, Oct. 8, 1918, with bronchopneumonia involving the right and left lower lobes, complained, November 25, of severe pain in the left upper quadrant of the abdomen. There was slight distention but no rigidity. November 26, 425 c.c. of amber fluid were aspirated from the left pleural cavity, cultures from which showed no growth. November 29, 75 c.c. of pus were aspirated from the same pleural cavity and showed a pure culture of staphylococci. The following day the left chest was again aspirated and a serohemorrhagic fluid obtained through the ninth intercostal space, between the posterior axillary and scapular lines. On pushing the aspirating needle slightly deeper, a thick yellow pus was obtained. Roentgenoscopy had revealed the presence of fluid in the left pleural cavity; hence the outline of the diaphragm on this side could not be seen. A costectomy was performed over the area from which the pus had been aspirated, and 1,500 c.c. of serohemorrhagic fluid were evacuated. The diaphragm was seen to bulge upward and, for this reason, the presence of a subphrenic abscess on this left side was suspected. December 4, the roentgen ray revealed a dense shadow from the sixth rib downward on the left side, and the domes of the diaphragm on the two sides were at about the same level. The normal clear area below the left dome, due to the gas bubble in the stomach, was absent. The tenth rib was resected in the midaxillary line after exploratory puncture had confirmed the diagnosis of a subphrenic abscess. Following the needle, which had been left in situ as a guide, the pleural reflection was pushed upward, an incision made through the muscles of the diaphragm, and 125 c.c. of a dark pus were evacuated. The soldier had no recurrence of elevated temperature and is making an uneventful recovery.

CASE 2.—A soldier, admitted, Oct. 8, 1918, with a diagnosis of bronchopneumonia of all lobes of the right lung, in whose case, October 27, an additional diagnosis was made of acute cholecystitis and cholangeitis, developed a facial erysipelas, the following day, and remained in a very septic condition until November 23, when he was seen by a surgeon in consultation on account of pain in the left upper quadrant. There was dulness over the anterior portion of the left side of the chest in the mammary line just above the costal arch, and an obliteration of Traube's semilunar space. There was also very slight excursion of the left lower lobe into the costophrenic angle. There was also evidence of free fluid in the peritoneal cavity, but no rigidity or tenderness. Roentgenographic examination revealed a shadow in place of the normal gas bubble beneath the left dome of the diaphragm, and displacement of the heart toward the right. The right half of the diaphragm showed such a degree of elevation that a right subphrenic abscess was thought of; but on exploration with a needle, no pus was obtained. Pus, however, was obtained over the left lower chest in the anterior axillary line, and about 90 c.c. of chocolate colored pus were evacuated through an incision in the eighth interspace from the left subphrenic region. The symptoms of a generalized sepsis supervened, and the patient died a few days later. At necropsy the lower lobe of the right lung was found adherent to the diaphragm, and that of the left lung was covered with a thin yellowish exudate. Throughout the liver were scattered many small abscesses. A generalized peritonitis with 1,500 c.c. of free greenish yellow fluid confirmed the clinical diagnosis. The left subphrenic region was walled off, and the origin of the pus obtained at operation was seen to be from an extensive suppurative pylephlebitis. There had evidently been a direct infection of the left subphrenic region from rupture of one of the abscesses in the left lobe of the liver. The gallbladder and the appendix showed at this time no evidence of disease. A number of the mesenteric lymph nodes contained abscesses. A gram-negative bacillus which did not give the typical reaction of the colon group was obtained from the lungs, liver and peritoneum at necropsy.

JAUNDICE

The incidence of jaundice as seen postmortem has been about what one is accustomed to find in fatal cases of lobar pneumonia. Jaundice, in most cases with a marked discoloration of the skin and the mucous and serous membranes, has been present in 7 per cent. of 140 necropsies. In all except one, a bacteremia was demonstrable; *Streptococcus hemolyticus* was present in three, *Streptococcus viridans* in three, and pneumococcus Type IV in two cases. In only one case was there swelling of the ampulla of Vater. In this instance the mucous membrane of the gallbladder and the ducts was slightly swollen and inflamed, being most marked in the cystic duct. The swelling was not sufficient, however, to interfere with the free passage of bile to the duodenum. In all cases, the intestinal contents showed that bile was freely passing into the intestine, and stools examined during life gave no evidence of obstruction to the flow of bile.

SPLEEN

The spleen in the majority of cases was but very little enlarged. It was moderately firm on section and red. Microscopically a rather marked congestion was the predominating feature.

KIDNEY

Cases of true acute nephritis were extremely rare. Acute congestion of the kidneys was frequent. In one case, multiple abscesses of the kidney were a part of a hemolytic streptococcal septicemia, which had also caused a severe infection of one of the toes. Pyelitis demonstrated by ureteral catheterization was occasionally found.

Both renal and perirenal localization may be so severe as to endanger life, either during the stage in which some pulmonary condition is present, or independently of any other demonstrated focus, as is well illustrated in the following case of perirenal infection:

Case 3.—A soldier, when admitted to the hospital during the influenza epidemic, seven days after sudden onset of headache and fever, complained of a steady aching pain in the right side of the abdomen, extending back to the iliocostal space, unaccompanied by nausea or vomiting. There were no urinary symptoms and no radiation of the pain along the ureter. Boardlike rigidity and marked tenderness were present in the right upper quadrant. The temperature varied from 101 to 104 F., and the white blood count was high (22,000). At times there was also rigidity and tenderness over the right kidney. A roentgenographic examination excluded a condition above the diaphragm, although the latter was 5 cm. higher on the right than on the left side. Ureteral catheterization revealed turbid urine containing staphylococci escaping from the right kidney and clear urine from the left one. During a period of diminished abdominal rigidity, a mass in the region of the kidney was palpated, and at operation a large perinephric abscess was evacuated, followed by an uneventful recovery. The pus from the abscess showed nonhemolytic streptococci and staphylococci.

RUPTURE OF THE RECTUS MUSCLES

Rupture of the rectus muscles occurred with such frequency as to attract special notice. Eight cases showed this condition at necropsy. The rupture occurred regularly midway between the symphysis pubis and the umbilicus. It was never complete, usually involving only a few fibers, and was always bilateral. It was accompanied by hemorrhage under the sheath of the muscles. In one case this hemorrhage was extensive, dissecting its way downward in front of the bladder. In another case a broken down hematoma under the muscle sheath showed hemolytic streptococci. In cases which have been studied microscopically the same condition was demonstrable, namely, polymorphonuclear leukocytes and mononuclear wandering cells accumulated diffusely between the muscle fibers, and here and there localized into definite abscesses. Poorly staining muscle fibers, sometimes broken and contracted with quantities of erythrocytes free in the tissues, completed the picture. The presence of well preserved erythrocytes in the tissues points to the fact that rupture was usually a late occurrence in the disease. The probable explanation of these striking breaks of the rectus abdominis is that a localization of the infection in these muscles with abscess formation so weakens the muscle that rupture occurs with violent coughing or terminal muscle spasms. In three of the cases the cough had been so severe that a special notation of the fact was made on the daily record.

THROMBOPHLEBITIS

Thrombophlebitis occurred four times (2.7 per cent.). In three cases it led to pulmonary embolism. In one case the thrombus had its origin at the bifurcation of the inferior vena cava, extended into the iliacs of both sides, and could be traced in the femorals to the middle of both thighs. This patient had marked swelling of both legs to the iliac crests. In another instance the right internal iliac vein was the seat of the thrombus, and in a third, old infarcts and plugged pulmonary vessels had their origin in a similar phlebitis which had had time to heal in part before the death of the patient from his pulmonary infection occurred. Blood cultures were negative in all cases during life and at necropsy. This affection is also one of the late manifestations of the epidemic and occurred in those patients who had been sick a month or more.

A YEAST MEDIUM FOR PROLONGING THE VIABILITY OF THE MENINGOCOCCUS *

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At present the need is felt for a simple medium for prolonging the viability of the meningococcus. A variety of mediums have been devised with this object in view, but generally they are prepared with difficulty, as in the cases in which animal blood is used, or they do not sustain the organism a sufficient time. In this communication a medium is presented which is simple to prepare and prolongs the viability of the meningococcus for at least a month.

Yeast contains elements necessary for bacterial growth and maintenance. Ickert[1] found that certain organisms thrive on yeast peptone agar although free from meat infusion or meat extract. The following is an adaptation to the meningococcus of Ickert's findings, using a modified medium:

PREPARATION OF THE MEDIUM

Ten gm. of bakers' or brewers' yeast are macerated in 100 c.c. of water for twenty minutes, and the suspension is steamed for two hours, the temperature not exceeding 100 C. It is then clarified by adding Merck's dialyzed iron (5 per cent. ferric oxid) and filtering through glass wool. The first step in this clarification is not necessary unless a specially transparent medium is desired. To 1 per cent. agar containing 2 per cent. peptone and 0.4 per cent. potassium phosphate is added an equal amount of the prepared yeast. The reaction is adjusted to $p_H = 7.6$, which, after heating, is reduced to 7.4. The medium is distributed, 10 c.c. in each tube, and is autoclaved for one-half hour at 15 pounds.

The result is a semisolid medium which is seeded by making stabs into it with a considerable amount of the inoculum. The tubes are sealed with paraffin or sealing wax and are kept at 37 C. until required.

REPORT OF EXPERIMENTS

Several strains of meningococci, normal, irregular, and para, spinal and nasal, recent and old, were seeded in this medium, and at the end of one month were still viable. In one instance the organism was recovered after seven, and in another after eleven weeks. If, after initial incubation, the cultures are kept at room temperature (from 23 to 26 C.), the period of viability is three weeks.

To test for viability, a small amount of the medium is transferred to sheep serum agar slants. It is important to note that the meningococcus produces no visible change in the medium. Indeed, a dried substrate may yield actively growing organisms. Hence a test is a necessary procedure. At times the mere transplanting to sheep serum agar slants fails to yield a growth. In such cases a small amount (from 0.5 to 1 c.c.) of 1 per cent. glucose broth is added to the yeast medium, and after from twenty-four to forty-eight hours' incubation a transplant is made to the sheep serum agar slants.

Further work is necessary to determine whether this medium is suitable for repeated transfers. However, its advantage in keeping the meningococcus alive

* From the Laboratories of the Rockefeller Institute for Medical Research.

1. Ickert, F.: Presshefe und Hefeextrakt zur Nährbodenbereitung, Deutsch. med. Wchnschr. 44: 186, 1918; abstr. Daily Review of the Foreign Press, May 1, 1918, p. 147.

over a long period is obvious, especially in transporting cultures over great distances.

CONCLUSION

Yeast-agar, a simple medium, easily prepared, prolongs the viability of the meningococcus for at least a month.

RAGWEED DERMATITIS

A NEW TREATMENT, WITH PRELIMINARY REPORT OF A CASE

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In submitting this report, I offer a new method for the treatment of certain dermatoses. The application of remedies in diseases of the skin so often involves such a great expenditure of time, patience and money that any quicker method for promising relief or cure should be most acceptable. Having seen no previous references to the treatment of plant dermatitis by the use of pollen extract, I believe that the method, as applied in this case, is original.

REPORT OF CASE

History.—Mrs. W. E. M., aged 49, a widow, of Wadley, Ga., housekeeper, was referred to me by Dr. N. J. Newsom, who for some months had treated her for gastro-intestinal complaint and other symptoms, which seemed to bear some causative relation to her skin trouble. October 10 of last year, her case was referred to me for further diagnosis, at which time she came under my care. I at once tried to ascertain the specific cause of the cardinal symptoms, which were itching of the skin and nervous distress. The history of the case is purposely detailed, because the information was essential to the discovery of the cause and to the treatment of the condition.

The family history is of no significance other than that the patient's grandmother had some kind of skin affection and was sensitive to what she termed the "yellow weed." The patient had had palpitation and shortness of breath for eighteen years previously, during which time she had also suffered from both muscular and articular rheumatism. She had always been of a nervous temperament, and seven years previously had begun to have severe attacks of nervousness together with hot flushes. She had never been free from indigestion.

The patient's chief complaint was an itching, inflamed rash, which began five years ago, appearing for the first two years only during the summer. The eruption occurred first on the neck, then extended to the outer and anterior surfaces of the arms and to the breasts, and since the past summer had extended to all parts of her body, excepting the hands, which have never been affected. During the last three years she had not been at any time entirely free from the rash, although there were periods of improvement when her general condition responded to treatment. The itching, the sensation of heat, and the nervous distress were intensified by physical exertion, especially after perspiring, and in keeping with the rash, were also more pronounced during the late summer and autumn months. All symptoms were worse at the menstrual periods, which for the past year had been irregular and abnormal, and accompanied by hot flushes and dizziness. The patient was almost crazed from nervousness at these periods, so that her condition became distressing to her family. Only absolute rest in bed, with hypnotics, afforded relief during the severe attacks.

In relating her history the patient referred significantly to the fact that her rash from its very onset became inflamed whenever she attempted to shuck corn or came in contact with certain weeds or plants. She noticed particularly that she was sensitive to pea vines, okra and hay. Her premises, as it developed, were covered with ragweeds. This information, together with knowledge of favorable reports on the treatment of hay-fever with pollen extract, caused me to make a trial of the pollen method of diagnosis and treatment.

Examination.—There was a dermatitis, exhibiting minute papules, erythema, tumefaction, vesiculation and incrustation where the skin had been scratched. It was present on the body, neck and limbs, and was exaggerated over the flexor surfaces of the joints.

Routine examination of the blood, urine and feces proved negative. The physical examination revealed aortic stenosis and arterial hypertension.

Diagnosis.—With the idea of making a specific diagnosis, I applied three intradermic tests, using pollen extracts of ragweed, corn and timothy, prepared by the H. K. Mulford Company, and marketed in the form of individual test syringes. The results of the tests were a decidedly positive reaction to ragweed, a faint reaction to corn, and no reaction to timothy. Positive results were indicated by a slightly elevated area of redness, without induration, surrounding the point of injection and varying in diameter from one-fourth to three-fourths inch. Reaction to the test, which was entirely local, was complete within eighteen hours and disappeared within twenty-four hours. The only discomfort resulting from the injections was a slight tenderness on pressure over the erythematous area, probably due to the needle puncture. The tests were applied to the upper and outer parts of the arm, and the injections were introduced between the layers of the epidermis. In the treatment of this case I employed the fall pollen extract, which combines the ragweed with corn and one other pollen, but very probably the ragweed extract alone would have met all the indications, as the skin test indicated the ragweed to be the offending plant.

Treatment and Results.—During the first eight days of the patient's stay in the hospital, she was kept in bed, being denied any visitors, and was given medicinal remedies, such as had been employed in the past, for nervousness, rheumatoid pains, and gastro-intestinal symptoms. These measures afforded very little relief, and the itching of her skin at times became so agonizing that powerful sedatives were required for relief.

Being impressed by her intolerance for certain plant emanations and by the long period of suffering she had experienced, with only very temporary relief from other methods of treatment, I felt convinced that her distressing symptoms were due to a sensitization, or anaphylaxis, of her skin to certain pollens; also I reasoned that, if the extracts from such pollens had proved in a measure successful in the treatment of hay-fever and asthma, there should be some hope of success by their administration in this case, which seemed only a different manifestation of a specific reaction. Accordingly, October 18, I injected subcutaneously one third of Syringe A, Fall Pollen Extract-Mulford, representing about 0.0008 mg. of pollen protein-nitrogen. The following day I was surprised to find my patient up and entirely relieved of the itching, and, to a great extent, of the nervousness. The rash had almost completely disappeared over night, and the patient felt so well she asked to be allowed to return home. I insisted on her remaining for a while under observation in the hospital, and the next day I found her still greatly relieved, but having a slight itching and a reappearance of the rash. The third day, a second injection of the remaining contents of Syringe A, which represented about 0.0016 mg. of protein-nitrogen, was given, after which all evidences of the rash again vanished and the symptoms subsided. After the initial dose of pollen extract the patient was able to rest and to sleep soundly at night for the first time in several months, without the aid of hypnotics. She continued, however, to feel somewhat nervous and to have hot flushes, which, with her age and menstrual irregularities, suggested the approach of the menopause. To relieve this condition, she was given 10 grains of lutein three times a day. A third injection of the entire contents of Syringe B (0.005 mg.) was administered October 26, six days following the previous injection, and the patient was then discharged from the hospital. At the time of her dismissal, all symptoms, including the hot flushes, had disappeared and her skin had

assumed a normal condition. She was instructed to return to the office at intervals of a week, or less time if necessary, for treatment, and was given a supply of lutein tablets to be taken in doses of 10 grains three times daily as long as required.

Subsequent injections of pollen extract (prepared in bulk) were given at the office: October 31, 0.01 mg.; November 4, 0.02 mg., at which time she exhibited a mild recrudescence of the rash on her face and neck, which she attributed to overexertion at her household duties and to indiscretion in diet; November 15, 0.02 mg.; November 20, 0.02 mg.; November 25, 0.04 mg.; December 3, 0.04 mg.; December 16, 0.04 mg.; January 6, 0.08 mg.; January 21, 0.12 mg.; February 28, 0.12 mg.

With the exception of a recurrence on November 4, the patient has been free from the skin eruption since leaving the hospital, although on two occasions she reported having experienced a slight stinging of the skin following unusual exertion. It has now been more than thirty days since the last injection was given, at which time she stated that in the future she would come for treatment only when she felt a recurrence of her symptoms. As she has not returned up to the present date, we may assume that the injections have afforded complete relief for a period of at least a month. Even more remarkable is the fact that she has been able to do all of her work, such as cooking, washing and housecleaning, and to eat some meat and other solid foods, which her condition had prohibited during the past year. She continues to take the ovarian extract and states that her periods are now regular and normal.

COMMENT

As to the permanence of results in this case, I am not prepared to say, as it might require quite an extended period of time, through the various seasons of the year, to determine all of the specific pollens to which the patient is sensitized. However, two conclusions may be advanced, namely: (1) that the basis of treatment of certain skin diseases with pollen extracts is scientific, being founded, as is bacterin therapy, on the theory of the production of antigens and antibodies, and should offer prospects of immunity or cure comparable to those of vaccines in general, and (2) that the immediate and complete relief afforded in the instance reported indicated a definite response to the injections of a foreign protein in the form of a pollen extract. If this method, by hypodermic injections at intervals varying from one to two weeks, proves applicable to other cases—which I see no reason to doubt, when a proper diagnosis is made—it is far preferable to the continuous ingestion and topical application of various medicinal remedies. I myself believe that when all of the specific pollens to which the individual is susceptible can be ascertained, this method of treatment offers the probability of relief and the possibility of a cure. If one can determine from the history of a patient, or from a botanical survey of his home surroundings the offending plants, an extract for both diagnostic and therapeutic use could be prepared.

I am now administering the spring pollen extract to a patient troubled with a rash apparently identical with that in the case reported, though milder, and after the first injection, she states that she has experienced decided relief. In all, she has received four injections, and since the last—now four days ago—the eruption has entirely disappeared, not returning even after perspiring, when the eruption would formerly always reappear. The size of the last dose was 10 c.c., representing 0.2 mg. of pollen protein-nitrogen, as she did not respond so readily to doses of 0.1, 0.05 and 0.02 mg. No results had been achieved by the previous administration of the fall extract in this case. This patient informs me that she has noticed that her skin is very sensitive to contact with tomato leaves, but as yet I have not applied the extract of this plant for diagnosis. She was, however, by the intradermic test susceptible to orchard grass, but was not susceptible to other spring and fall pollens.

The only negative phase I have observed after pollen extract injections was a slight headache.

ACQUIRED IMMUNITY TO INFLUENZA

AS INDICATED BY A RECURRENT EPIDEMIC IN AN INSTITUTION

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AND

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During the early part of November, 1918, there occurred an epidemic of influenza in the State Training School for Girls at Mitchellville, Iowa. At this time seventy-six of the girls had the disease. The second epidemic occurred in January.

The State Training School for Girls has approximately 180 students. They are housed in six cottages, about thirty girls residing in each cottage. By strict isolation, the epidemic was limited entirely to Cottages 2, 3 and 4. This epidemic subsided about November 15. From this time until January 6, the institution was entirely free from influenza. During this time there was in force rigid quarantine against the outside world.

It has for years been the practice of the institution to isolate in a detention hospital for two weeks all new arrivals. This practice has given the institution an enviable record so far as acute, infectious diseases are concerned.

One of the teachers in the institution was permitted to spend the week end of January 5-6 away from the institution. On the 6th and 7th she complained of feeling ill; she did not, however, go to bed, but continued her routine duties as teacher in the training school. This teacher lived in Cottage 6.

January 8, four students who were housed in Cottage 6 were sent from school sick. They had opportunity before being sent from school to disseminate the infectious agent to all students who attended school on that date. All the cottages of the institution were represented in the school in which these cases developed. Therefore all the families were theoretically equally exposed to the infectious agent.

Additional cases developed very quickly. January 10, twenty-nine cases were reported; the 11th, sixteen cases; the 12th, twelve cases; the 13th, six cases; the 14th, seven cases; the 15th, three cases; the 16th, three cases; the 19th, one case; the 23d, one case; total, eighty-two cases.

The distribution according to families was: Family 1, 16 cases; Family 2, 3; Family 3, none; Family 4, 2; Family 5, 33; Family 6, 28.

We see, therefore, that the epidemic is practically limited to the cottages that had escaped the ravages

of the November epidemic. Of those girls who developed the disease in January, seven were recent arrivals, and two failed to develop the disease in November, although presumably exposed to the infectious agent at that time.

In the January epidemic there were few complications. Convalescence was much more rapid than in the first epidemic. Two patients developed otitis media. One of these had severe laryngitis. There were no fatalities following the January epidemic, whereas there were two deaths among the seventy-six cases that occurred in November.

The outstanding feature of the epidemic was the fact that those who had recovered from influenza were immune from a second attack of the disease. This evidence tends to prove that immunity to influenza can be acquired by having an attack of the disease, and that the duration of this acquired immunity is at least two months.

The students in this institution were all between 12 and 18 years of age. The fact that 158 out of 180 of these young people developed the disease also suggests that there is a small percentage, approximately 12 per cent., who are naturally immune to influenza.

THE ULTRAVIOLET RAYS IN THE TREATMENT OF CHILBLAIN

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Chilblain, or erythema pernio, is a form of erythema that appears in the late fall and winter months in individuals with a poor peripheral circulation and a disturbed vasomotor mechanism. In the mild cases there is merely a slight dusky or dark red discoloration of the regions with feeble peripheral circulation, as the tip of the nose, the lobes of the ears, the fingers, the toes, the heels and the cheeks. Usually, with the erythema, there is an exudation into the tissues resulting in the formation of papules, tubercles and plaques. In the severe cases, vesicles and bullae develop on top of the solid lesions. The vesicles, when ruptured or torn, give rise to erosions, ulcers and rarely to sloughing areas.

In the mildest cases there is no subjective symptom except discoloration of the skin. In the moderate and the severe cases the patients complain of mild, moderate or intense itching, burning or pain, and tenderness on pressure. The condition tends to run a prolonged course and is often rebellious to treatment. It persists at times for months until the beginning of warm weather. Then it disappears spontaneously, but with the coming of another winter it tends to return.

REPORT OF CASES

The winter of 1917-1918 was unusually severe. The number of patients with chilblain applying for treatment was consequently more numerous than in former years. The types of cases were often severe, persistent and obstinate in nature.

In one case which was particularly obstinate, after failing to obtain relief by the routine methods of treatment, I was led to try the ultraviolet rays as a therapeutic measure. The result was so gratifying that the rays were administered in two other cases with corresponding good results. It is therefore deemed justifiable to report these cases and to suggest this method of treatment for chilblain.

CASE 1.—A. B., a man, aged 25 years, a native of the United States, contracted syphilis in June, 1915, and had received since then regular antisyphilitic treatment. Because of his occupation he was constantly exposed to cold drafts and to frequent changes of atmospheric temperature. In November, 1917, he was attacked by severe chilblain. There developed rapidly on all the toes, the heels of both feet and the external surfaces of the feet, numerous purplish-red papules, tubercles and plaques, from the size of a small pea up to the size of a silver half dollar, surmounted by vesicles and erosions. Treatment failed to relieve or prevent the development of lesions, and the patient was compelled to stop work. One afternoon, each affected area was exposed for ten minutes to the ultraviolet rays emanating from a quartz, mercury vapor lamp, the quartz filter being placed at a distance of 10 inches from the skin. The next morning the pain and itching had ceased, and erosions showed a tendency to heal. At the end of a week all that remained of the condition was a slight, dusky discoloration. There has been no recurrence this winter.

CASE 2.—During the first week of December, 1917, N. R., a woman, aged 24, a clerk by occupation and a native of the United States, was referred by Dr. S. B. for treatment of dandruff and loss of hair from the scalp. Examination revealed besides the pityriasis steatodes of the scalp, evidence of anemia, hyperthyroidism, and a moderate form of erythema pernio of the dorsum of the fingers. The patient stated that chilblain had been present for two months and that she had had mild attacks during the two preceding winters. Her hands were exposed to the ultraviolet rays while the scalp was receiving treatment from the Heraeus sun lamp. After two ten-minute exposures, at a distance of 20 inches, administered at a weekly interval, there was a complete disappearance of the lesions.

CASE 3.—B. S., born in Russia, an unmarried woman, aged 22, referred for treatment by Dr. M. S., complained of a painful bluish-red eruption of the fingers of both hands, which she considered an infection subsequent to manicuring of the nails. The patient was well nourished but suffered from a poor vasomotor mechanism, as revealed by a marked dermatographia, excessive flushing, hyperhidrosis and a second degree erythema pernio of the dorsum of the fingers. The treatment advised in this case included a nonirritating diet, catharsis, iron and arsenic internally, massage of the fingers, and exposures to ultraviolet rays. Three exposures, each of ten minutes' duration and at weekly intervals, were administered. The pain was alleviated after the first séance, and the lesions disappeared after the third treatment.

COMMENT

The invisible ultraviolet and infra-red rays are to the right and left of the spectrum. The red and infra-red rays are heat producing and penetrating. The violet and ultraviolet rays produce a minimum of heat but possess marked chemical properties, are readily absorbed and are of value for therapeutic purposes. It has been shown that the therapeutic value of the sun is derived from the presence of the ultraviolet rays. Chilblain is essentially an erythema occurring in those with poor peripheral circulation and disturbed vasomotor tone. The good results obtained with the ultraviolet rays in this disease are probably due to the direct effect of the rays on the peripheral vessels and blood stream. It is therefore suggested that the rays be employed in the treatment of the condition, but not to the exclusion of other local and general measures. They are not only of value in removing the lesions, but if used sufficiently early in those who have had previous attacks they may prevent a recurrence.

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BASAL-CELL EPITHELIOMA*

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In the second of a series of articles on epithelioma published in 1918, MacCarty and I[1] classified such tumors into six types or apparent types and described each. The tumor commonly known as the rodent ulcer has been termed basal-cell epithelioma because its cells tend to differentiate to a form similar to the cells of the basal or germinative layer of the epidermis. This type, which, like other epitheliomas, may be found on any surface covered with protective epithelium, develops practically always above the clavicle. The majority of its lesions attack the cheek, the eyelids, the nose, the forehead, the ear, the canthi and the temporal regions.

Basal-cell epithelioma often appears in the skin as an elevated, whitish nodule which resembles an adenoma or cyst of a sebaceous gland, as an ulcer with indurated borders, or as a scaly lesion. The latter type, which exfoliates its superficial layers to a shiny surface but which shows little tendency to heal completely (Figs. 4, 5, 6, 7, 8 and 9), is usually found in persons who are exposed to intense sunlight. The cells of the basal-cell epithelioma vary greatly in morphology and in arrangement. They may be long and slender, short and thick, round, oval, or spindle shaped. In arrangement they may be alveolar or glandlike and resemble the structure of the thyroid; they may present a cactus-like appearance, a diffuse or circumscribed solid mass of cells, or a combination of these different types (Figs. 10, 11, 12, 13, 14, 15, 16 and 17).

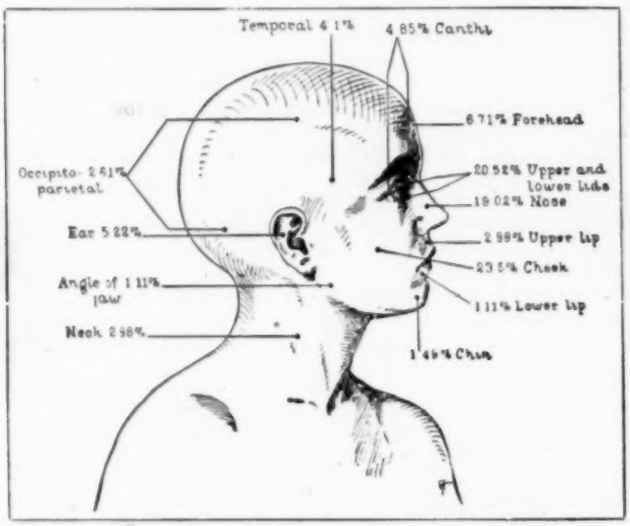

Fig. 1.—Location and percentage of basal-cell epitheliomas above the clavicle.

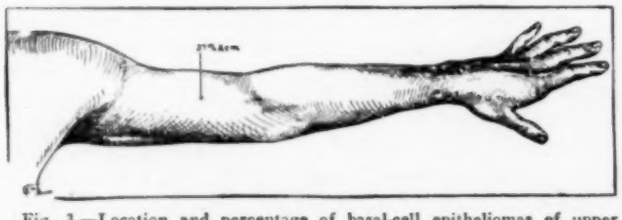

Fig. 3.—Location and percentage of basal-cell epitheliomas of upper extremity.

Since, as a matter of fact, all tumors arising in protective epithelium are basal-cell epitheliomas, their cellular differentiation is their only distinguishing feature. Because of some common characteristics, many basal-cell epitheliomas are undoubtedly diagnosed endotheliomas, alveolar sarcomas, round-cell sarcomas, spindle-cell sarcomas, and adenocarcinomas. Moreover, the cells of a pure basal-cell epithelioma are not supposed to contain prickles or spines; but because these do sometimes appear, it is often difficult to determine whether an epithelioma should be called a basal-cell or squamous-cell epithelioma, especially since prickle cells are found in so-called basal-cell epitheliomas, and basal cells can always be seen in squamous-cell epitheliomas. It now seems to be a well established fact that a basal-cell epithelioma can change into a squamous-cell epithelioma, or at least into an epithelioma in which the squamous cells predominate. We know, beyond a doubt, that basal cells and squamous cells may be shown intimately connected in a neoplasm (Fig. 18), and this may account

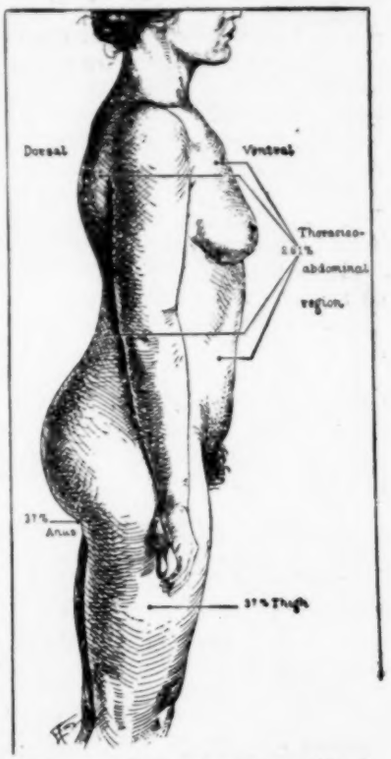

Fig. 2.—Location and percentage of basal-cell epitheliomas of trunk and thigh.

TABLE 1.—BASAL-CELL EPITHELIOMA

	No.	Per Cent.
Patients	268	
Percentage of 2,000 cases of general epithelioma	...	13.4
Males	165	61.6
Females	103	38.4
Average age, years	56.7	
Oldest, years	87	
Youngest, years	23	
FAMILY HISTORY OF MALIGNANCY		
Males	17	10.3
Females	12	11.65
Total	29	10.82
PERSONAL HISTORY		
History of previous mole, wart, pimple, eczema, scab, ulcer, etc.	...	37.1
History of injury	...	9.3
Average duration of lesion, years	7 1/12	
Longest duration of lesion, years	45	
Shortest duration of lesion, months	3	
Average greatest diameter of lesions, cm.	2	
Greatest diameter of lesion, cm.	12	
Smallest diameter of lesion, cm.	.5	
Males: OCCUPATION		
Farmer	82	56.16
Laborer	8	5.47
Carpenter	7	4.79
Merchant	6	4.10
Real estate dealer	6	4.10
Miscellaneous (26 occupations)	37	25.38
Females:		
Farm workers	39	43.33

* From the Department of Surgical Pathology, Mayo Clinic.
* Read before the Southern Minnesota Medical Association, Mankato, Jan. 20, 1919.

1. Broders, A. C., and MacCarty, W. C.: Epithelioma, Surg., Gynec. & Obst. 27: 141 (Aug.) 1918.

for the contention of some pathologists that basal cell epitheliomas do occasionally metastasize.

In the series of cases here reported, none have been included without a thorough microscopic examination. In distinguishing between cases that should be classified as basal-cell epithelioma and those that should be classified as squamous-cell epithelioma, the following rule has been adhered to: If the majority of the cells of the epithelioma are of the squamous-cell type, it is classified as a squamous-cell epithelioma; but if the majority are of the basal-cell type, it is classified as a basal-cell epithelioma.

TABLE 2.—LOCATION OF THE LESION

	No.	Per Cent.
Single lesion	252	
Multiple lesions	16	
Cheek	...	23.5
Eyelids	...	20.52
Nose	...	19.02
Forehead	...	6.71
Ear	...	5.22
Canthi	...	4.85
Temporal region	...	4.10
Neck	...	2.98
Upper lip	...	2.98
Occipitoparietal region	...	2.61
Thoraco-abdominal region, ventral and dorsal	...	2.61
Chin	...	1.49
Angle of jaw	...	1.11
Lower lip	...	.37
Arm	...	.37
Anus	...	.37
Thigh	...	.37

Fig. 4 (A 50531).—Basal-cell epithelioma of scalp.

Fig. 5 (A 55948).—Basal-cell epithelioma of nose.

TABLE 3.—TREATMENT

PREVIOUS TREATMENT OF LESION ELSEWHERE	Per Cent.
One or more treatments; acids (nitric and hydrochloric), carbon dioxid, copper sulphate, electricity, paste, radium, silver nitrate and roentgen ray	27.23
One or more operations	20.14
Operation without being treated with acids, carbon dioxid, etc., before, at, or after operation	14.55
Treatment with acids, carbon dioxid, etc., without operation	21.64
Operation and treatment with acids, carbon dioxid, etc.	36.19
TREATMENT AT MAYO CLINIC	
Excision with knife (one)	48.13
Excision with knife immediately followed by cautery (one)	26.86
Excision with cautery (one)	4.47
Miscellaneous (knife, cautery, roentgen ray, radium)	3.73
Excisions with knife immediately followed by cautery (two or more)	2.98
Excision with knife immediately followed by cautery and later by cautery (one)	2.98
Excision with knife (two or more)	2.23
Cautery (once)	2.23
Excision with knife followed later by cautery (one)	1.86
Excisions with cautery (two or more)	1.48
Cauteries (two or more)	1.11
Inoperable	1.86

There is, however, one tumor classified by some pathologists as a basal-cell epithelioma which is not included in these statistics: as we term it, a basal-cell-like epithelioma. This tumor occurs in the nose, in the pharynx, in the antrum of Highmore, in the parotid gland, in the cavity of the mouth, and in similar places. Although it is of long duration and has a microscopic structure similar to that of the basal-cell epithelioma,

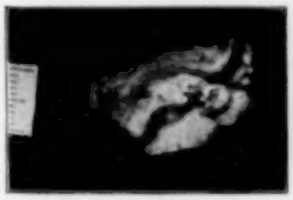

Fig. 6 (A 33173).—Basal-cell epithelioma of eyelid.

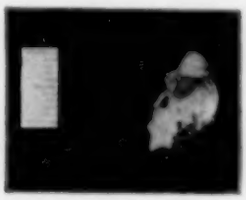

Fig. 7 (A 96196).—Basal-cell epithelioma of eyelid.

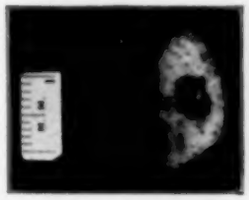

Fig. 8 (A 98228).—Basal-cell epithelioma of forehead.

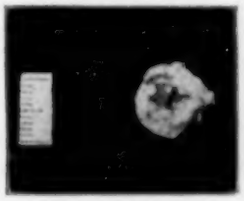

Fig. 9 (A 59758).—Basal-cell epithelioma of cheek.

the trained eye will detect a difference; also, such tumors will metastasize, while the basal-cell epithelioma which occurs on the outer surface of the body is not supposed to do so.

In presenting this series of cases of basal-cell epithelioma, I have endeavored to classify the findings as briefly as possible, and, at the same time, to bring out the most important points. Its chief object is to present in tabulated form a collective history of the cases, so as to furnish data of the initial appearance, clinical manifestations, treatment, and ultimate fate of the basal-cell epithelioma. As the patients whose cases are tabulated here came to the Mayo Clinic between Nov. 1, 1904, and July 22, 1915, which period antedates the active use of radium

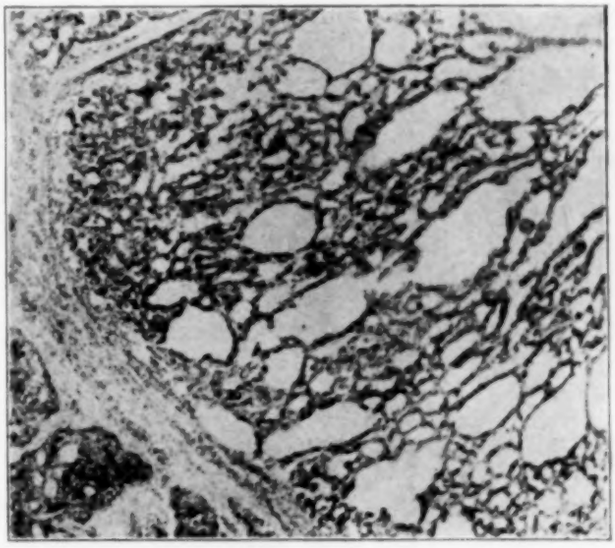

Fig. 10 (A 38151).—Basal-cell epithelioma of the outside of the nose. Note the close resemblance to thyroid.

in the treatment of this type of neoplasm, practically no account is given in this article of our experience with the curative properties of radium.

SUMMARY

1. Our present series of cases represents 13.4 per cent. of 2,000 cases of general epithelioma.

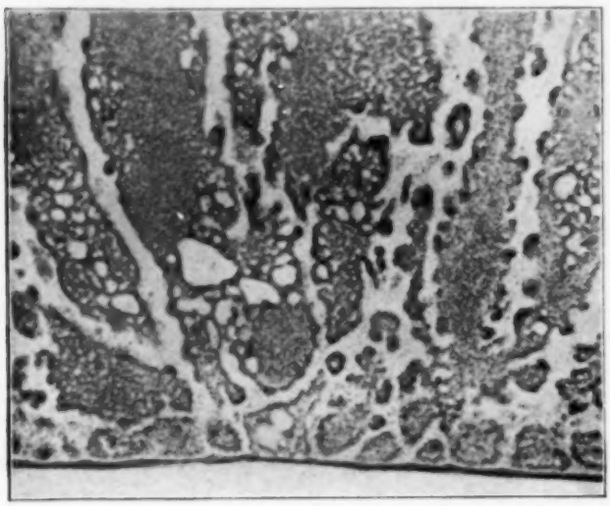

Fig. 11 (A 33009).—Basal-cell epithelioma of forehead, showing glandlike and solid areas.

2. Basal and squamous cells can be shown intimately connected in a neoplasm.

3. It seems to be a well-established fact that a basal-cell epithelioma can change into a squamous-cell epithelioma, or at least into an epithelioma in which the squamous cells predominate.

Fig. 12 (A 38366).—Basal-cell epithelioma of the nose, showing solid plugs of cells.

4. Basal-cell epithelioma occurs more often in males than in females, the proportion being about 3:2 in favor of the former.

5. The disease occurs in patients past middle life; their average age is 56.7 years.

6. It occurs more often in farmers than in any other class of people.

TABLE 4.—ULTIMATE RESULT

	No.	Per Cent.
Patients heard from	145	54.10
Patients living	110	75.86
Patients dead	35	24.13
CONDITION OF LIVING PATIENTS		
No recurrence	83	75.45
Slight recurrence	22	20
No improvement	5	4.54
TREATMENT IN CASES IN WHICH THERE WAS NO RECURRENCE		
One excision with knife	38	45.77
One excision with knife followed immediately by cautery	24	28.91
One excision with cautery	8	9.62
Miscellaneous (various combinations of excisions and cauteries)	7	8.43
Two excisions with knife	3	3.61
One excision followed immediately by cautery and later by another cautery	3	3.61
Total	83	
Average greatest diameter of tumor, cm.	1.75	

Of the 83 living patients with a good result, 25 (30.12 per cent.) were either operated on or treated with acid, carbon dioxid, etc., elsewhere.

Length of time since last operation or only operation:

1 year and more	2 cases	7 years and more	5 cases
2 years and more	2 cases	8 years and more	3 cases
3 years and more	17 cases	9 years and more	3 cases
4 years and more	15 cases	10 years and more	8 cases
5 years and more	13 cases	11 years and more	1 case
6 years and more	9 cases	12 years and more	4 cases
		13 years and more	1 case

Average: 6 years, 1.6 months. Total 83 cases

TREATMENT IN CASES IN WHICH THERE WAS SLIGHT RECURRENCE		
One excision with knife	9	40.90
One excision with knife followed immediately by cautery	6	27.27
Miscellaneous (various combinations of excisions and cauteries)	5	22.73
Two or more excisions with cautery	2	9.09
Total	22	
Average greatest diameter of tumor, cm.	2	

Of the 22 living patients with a fair result there were 13 (59.09 per cent.) either operated on or treated with acid, carbon dioxid, etc., elsewhere.

TREATMENT IN CASES IN WHICH THERE WAS NO IMPROVEMENT		
Miscellaneous (various combinations of excisions and cauteries; one patient refused operation and was treated with roentgen ray)	5	
Average greatest diameter of tumor, cm.	3.75	

Of the 5 living patients with a bad result there were 4 (80 per cent.) either operated on or treated with acid, carbon dioxid, etc., elsewhere.

TABLE 5.—MORTALITY

	No.	Per Cent.
Average age at time of death, years	69	
Oldest, years	91	
Youngest, years	48	

Average length of life after the last or only operation, 4 years, 3.6 months.

CAUSE OF DEATH ACCORDING TO RELATIVE OR HOME PHYSICIAN		
Basal-cell epithelioma	11	31.42
Heart disease	5	14.28
Carcinoma of stomach	3	8.57
Apoplexy	3	8.57
Carcinoma of colon	1	2.85
Carcinoma of liver	1	21.85
Carcinoma of uterus	1	2.85
Carbuncle	1	2.85
Cold and bronchial obstruction	1	2.85
Diabetes	1	2.85
Gangrene of foot	1	2.85
Hemorrhage of throat	1	2.85
Unknown	5	14.28
Total	35	
Average age of patients who died of basal-cell epithelioma, years	59.7	
Oldest, years	79	
Youngest, years	48	
Length of life after the last or only operation, years	4.12	
Average greatest diameter of lesions of patients known to be dead, cm.	2.67	
Average greatest diameter of lesions of those who died of basal-cell epithelioma, cm.	4.32	
TREATMENT OF PATIENTS WHO DIED		
One excision with knife	18	51.42
One excision with knife immediately followed by cautery	11	31.42
Miscellaneous (various combinations of excisions and cauteries, one case inoperable)	6	17.14
TREATMENT OF PATIENTS WHO DIED DUE TO BASAL-CELL EPITHELIOMA		
One excision with knife	4	36.36
One excision with knife immediately followed by cautery	4	36.36
Miscellaneous (one inoperable)	3	27.27

Fifteen (42.85 per cent.) of the 35 patients known to be dead were either operated on or treated with acids, carbon dioxid, etc., before entering the Mayo Clinic.

COMPLICATIONS IN THREE FATAL CASES	
Carcinoma of the breast	1
Carcinoma of the colon	1
Carcinoma of the body of the uterus	1

7. A family history of malignancy and a personal history of injury play a negligible part.

8. Previous mole, wart, pimple, eczema, scab, ulcer, etc., are associated in 37.1 per cent. of the cases.

Fig. 13 (A 71769).—Basal-cell epithelioma of the cheek similar to Figure 11.

9. The duration of the lesion shows a marked variation; it extends from three months to forty-five years, and averages seven years and one month.

10. Ninety-six and twenty-eight hundredths per cent. of all the lesions occur above the clavicle.

11. Thirty-six and nineteen hundredths per cent. of all the patients had been either operated on or treated with acids, carbon dioxid, etc., before entering the Mayo Clinic.

Fig. 15 (A 98228).—Basal-cell epithelioma of forehead; same as Figure 8.

12. In approximately 75 per cent. of all the cases treated at the clinic there was either one excision with the knife alone or one excision with the knife immediately followed by cautery.

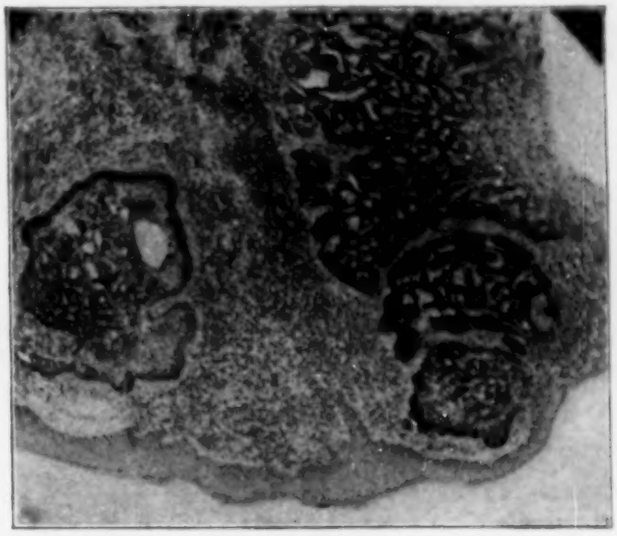

Fig. 16 (A 38151).—Basal-cell epithelioma of the outside of the nose, showing connection with epidermis; same as Figure 10.

13. Of the 54.1 per cent. of patients heard from, 75.86 per cent. are living, of whom 75.45 per cent. report a good result.

14. In the cases in which a good result was reported, 74.68 per cent. of the patients had either one excision with the knife alone or one excision with the knife immediately followed by cautery.

15. The patients treated with acids, carbon dioxid, etc., before entering the clinic did not get so good a result as those who had no previous treatment.

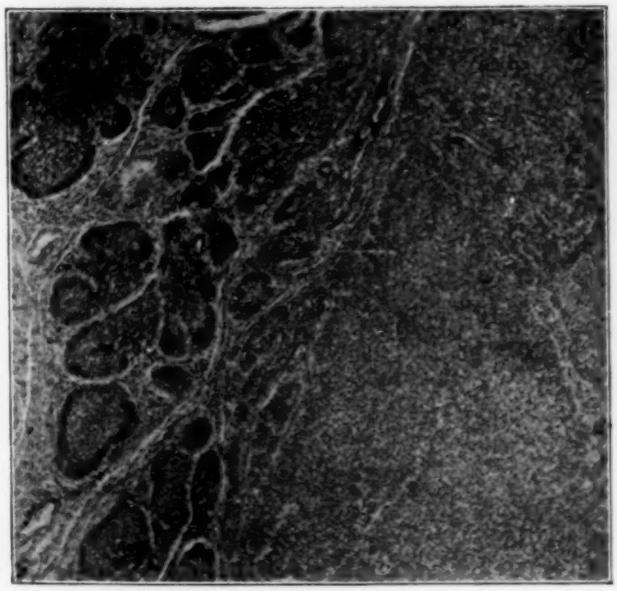

Fig. 14 (A 61661).—Basal-cell epithelioma of eyelid showing circumscribed and diffuse masses of cells.

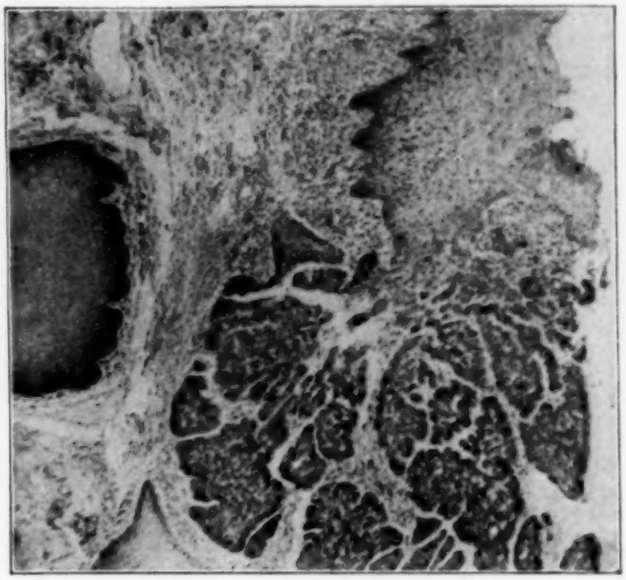

Fig. 17 (A 20310).—Gland type of basal-cell epithelioma of the outside of the nose, showing connection with epidermis.

16. The low grade of malignancy of the neoplasm is evidenced by its long duration, lack of metastasis

in a single case in this series, response to proper surgical treatment, and by the fact that 75.45 per cent. of the patients reported living have been free from the disease on an average of six years, one and six-tenths months.

17. Of the patients reported dead, fewer than one third died from this disease.

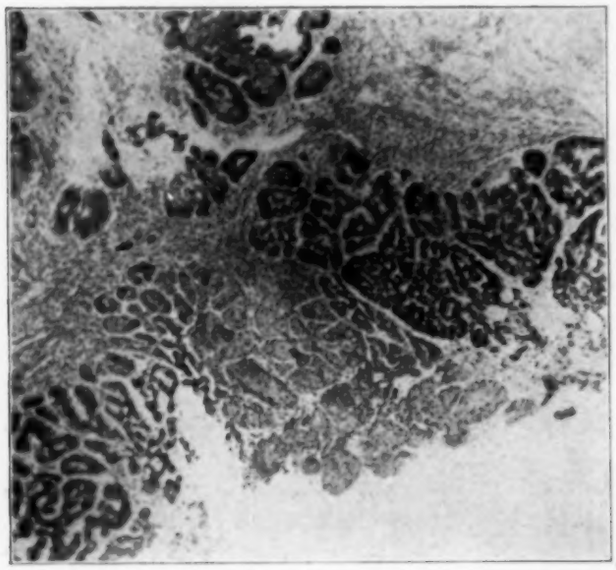

Fig. 18 (A 20310).—Gland type of basal cells intimately connected with squamous cells (typical metaplasia), adjacent to microscopic field of Figure 17.

18. Excessive exposure to sunlight as a cause of the neoplasm has not been borne out by the facts in our series of cases. It was noted that the hand, which is exposed to sunlight at least as much as any part of the body above the clavicles, did not show lesions.

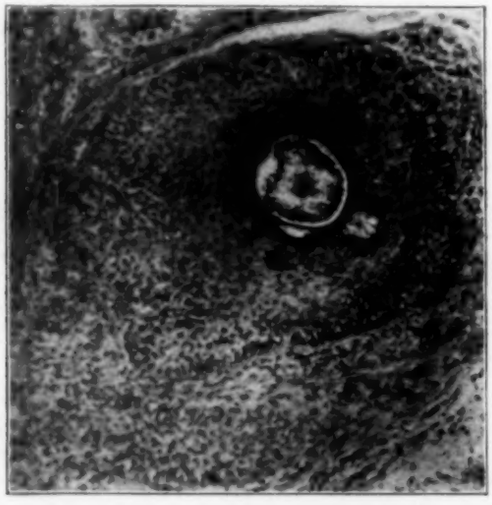

Fig. 19 (A 96196).—Basel-cell epithelioma of eyelid—originating from a hair follicle; same as Figure 7.

19. Practically all of the neoplasms in our series had their origin in the germinal layer of the epidermis of the skin. Only one was demonstrated to have originated from a hair follicle (Fig. 19).

Crime and the Feebleminded.—Psychopathy determines crime, and intelligence effects the nature of it.—Hickson.

TUBERCULOUS ANORECTAL FISTULAS

REPORT OF TWO CASES SHOWING SECONDARY LUNG INVOLVEMENT AND LATE CLINICAL EVIDENCE OF THEIR TRUE CHARACTER *

S. MORTIMER HILL, M.D.

AND

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NEW YORK

That abscess and fistula about the rectum are sometimes caused by infection with the tubercle bacillus is too well known to require more than passing mention, and, as the condition generally presents more or less definite clinical symptoms, its diagnosis does not offer any unusual difficulty, especially when there are corroborative signs in the lungs or other organs.

Briefly, a tuberculous fistula has an external opening that is patent, irregular and usually larger in size than that of the simple variety. It is more or less insensitive to probing and manipulation; discharges a thin, dirty gray material, seldom thick or creamy, and the skin surrounding it is bluish, undermined and unhealthy looking. The hair on the immediate neighboring parts is long, fine and silky; the buttocks are flattened, and the ischial tuberosities are prominent. While not all of these signs are present in every case, one or more of them are regularly in evidence very early in the disease, thus putting the surgeon on his guard in making his prognostic and therapeutic considerations.

Exceptionally we may meet some cases, however, in which they are doubtful, delayed or absent, in consequence of which it may not be recognized until late that we are dealing, not with a benign local infection, but with a serious general disease. In view of the obvious importance of these facts to all concerned, we desire to report two instances of this character that occurred in our experience during the past year:

REPORT OF CASES

Case 1.—M. S., a man, aged 49, a tailor, married, with negative family and previous history, developed one year before he came under observation a painful swelling about the anterior margin of the anus, which ruptured spontaneously and discharged a creamy liquid. Some weeks later he presented himself for treatment at the rectal clinic of the Post-Graduate Hospital, and was found to have a minute opening in the perineal skin, 2 cm. in front of the anus in the median line, which opened in the anterior wall of the anal canal, between the two sphincters. The tissues were sensitive to touch and probing, and the surrounding skin was pinkish and not undermined. There was no history of cough, hemoptysis, fever, gastro-intestinal disturbances or loss of weight, and examination detected no abnormal physical signs in the lungs or elsewhere. The case was therefore regarded as a simple, nonspecific anal fistula, and operation was performed under general anesthesia in the usual way. The patient was relieved of his pain and was lost sight of for a time. Later he again appeared at the clinic, some eight months after the onset of his symptoms, when his wound had grown considerably larger and looked rough, pitted, spongy and irregularly ulcerated, with its edges thickened and infiltrated. Tuberculosis was suspected and confirmed by laboratory examination of a piece of the excised tissue. The local condition improved, but the patient developed cough, dyspnea, and definite pulmonary signs.

* From the Department of Rectal Diseases, Post-Graduate Medical School and Hospital.

CASE 2.—C. J. O'N., a man, aged 40, an executive, married, with negative family and previous history, was taken ill one year ago with pain and swelling about the rectum, accompanied by constipation and general symptoms lasting several days. A diagnosis of ischiorectal abscess and fistula was made, and he was treated surgically; the wound showed no disposition to heal, and he was referred to the junior author, who found the opening of a small tract on the skin, 5 cm. from the anal rim, and to the left of it, which opened internally on the corresponding rectal wall, and showed no evidence, either in its physical condition or in its clinical characters, of signs other than those one would expect to find in a simple, nonspecific fistula. Neither was there a history of cough, loss of weight, or any abnormal findings in the chest. The patient was treated surgically and his wound improved for a time, but nine months after the onset of his trouble it is still unhealed, has assumed an unhealthy look, its edges are blue and undetermined, and the patient has a cough, positive sputum, and infiltration of both lungs.

SUMMARY

A summary of these two cases shows that they both began with what appeared to be an ordinary abscess and fistula about the rectum, persisted for a considerable time without showing any signs that would lead one to suspect their true nature, and were followed by pulmonary involvement. Without attempting to generalize from two cases, we cannot shut our eyes to the warnings that they carry:

1. Clinical signs that would serve to distinguish between specific and nonspecific local lesions about the rectum are not dependable, because they may be late in making their appearance; consequently, laboratory examination should be resorted to as early as possible.

2. There may be secondary pulmonary involvement from a tuberculous focus about the rectum, in individuals who lack resistance.

616 Madison Avenue—310 West Eighty-Sixth Street.

Dr. Wu Ting Fang on the Urgent Need of Public Health Work in China.—In his address to the missionaries at Canton in September, 1918, as set forth in the *National Medical Journal of China*, Dr. Wu Ting Fang, China's veteran statesman, in the course of a discussion on the public health needs in that country, said: "The work of public sanitation, which must be kept under a system of public inspection, should be undertaken by government agencies. China begins to realize the enormous toll in human life exacted as the price of ignorance in these matters. The elementary principles of sanitation and hygiene are violated constantly in our crowded cities. Ignorance of proper preventive measures exposes annually millions of our people to dangerous epidemic diseases, many of which, in the light of modern medical science, are considered preventable. China must organize against disease by promoting a nationwide campaign of enlightenment. A noteworthy feature of China's progress is the establishment of the National Medical Association of China, a purely Chinese organization of nearly one hundred Chinese physicians educated in western medical science and pledged to 'expedite the spread of modern medical science in China and to arouse interest in public health and preventive medicine among the people.'"

FRACTURE AND ORTHOPEDIC TABLE

ESPECIALLY DESIGNED TO AID IN THE TREATMENT OF FRACTURES, BY EITHER THE OPEN OR THE CLOSED METHOD

HUGH McKENNA, M.D.

Formerly Lieutenant-Colonel, M. C., U. S. Army; Chief of Surgical Service, U. S. Army General Hospital No. 22; President of the Staff of St. Joseph's Hospital

CHICAGO

Experience in surgery of bones and joints, particularly in the management of both the open and closed method of reducing fractures, led me to work out a mechanical device that would simplify this procedure.

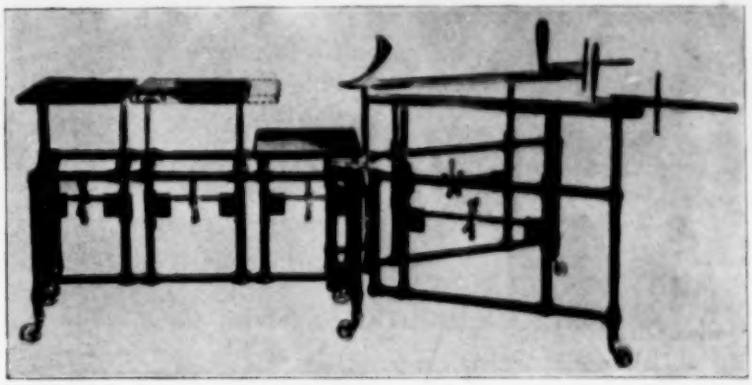

Fig. 1.—Table with lumbar segment lowered and the adjustable slide from the thoracic segment projected.

During the past year I presented my ideas on this subject to a hospital equipment manufacturer, and after submitting the drawings and a wooden model, the result of this effort was expressed in the fracture and orthopedic table herein described and illustrated.

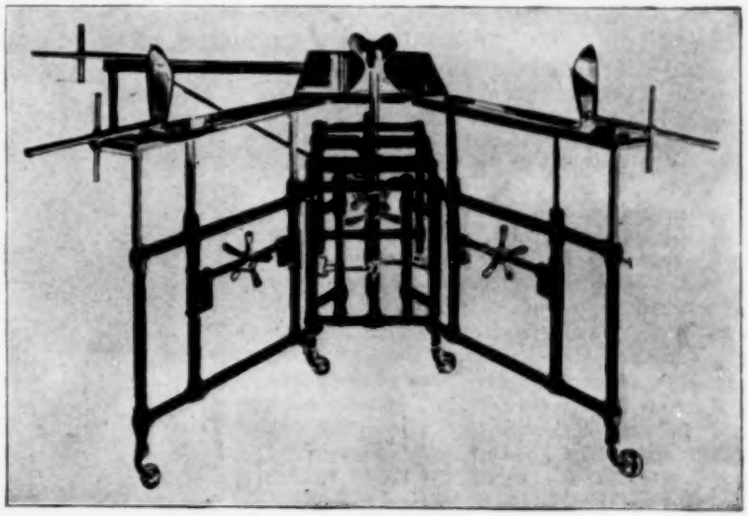

Fig. 2.—Table with leg segments divided.

War surgery has revealed lesions of so many parts of the anatomy that it was deemed advisable to construct an operating table that would permit of the maximum number of anatomic positions with the minimum degree of disturbance to the parts, in applying dressings and plaster-of-Paris casts, when the surgical procedure was completed.

The most difficult and distressing situation to be dealt with in bone and joint surgery comes in the treatment of these conditions in the lower extremities.

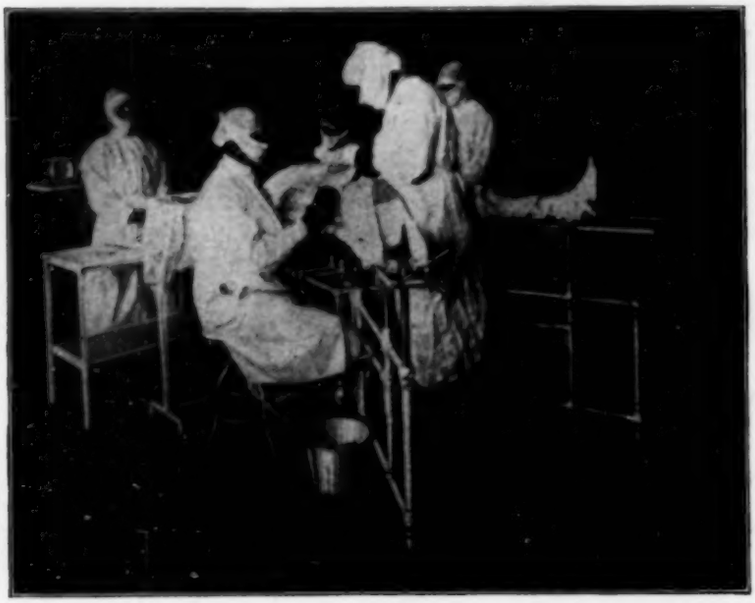

Fig. 3.—Assistant standing between legs of patient.

This led to the construction of an apparatus built on the principle of adjustable segments, which may be raised or lowered to any position desired by the surgeon.

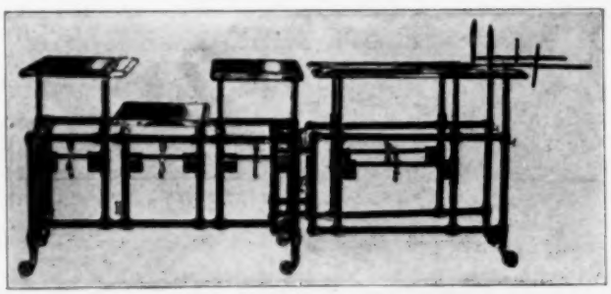

Fig. 4.—Table with thoracic segment lowered.

MECHANICAL CONSTRUCTION

The table is constructed on a segment or unit principle, which permits the units to be adjusted independently of one another.

By the lowering of one or more segments, the part to be operated on or dressed is not subjected to the same strain as would be caused if the same anatomic position were secured by elevation of the patient.

The same rigidity is secured with this construction, including the arm and leg segments, as is afforded by any single piece standard operating table, and at the same time the segments are adjusted with smoothness and ease. The segments, making up the table top, are raised and lowered by means of a spoked hand-wheel and steel shaft. These work in conjunction with a worm-gear and ratchet bar. The segment may be elevated or lowered as desired by a turn of the wheel.

This table presents an apparatus that renders it possible, by taking a position between the legs, for the operator to approach the inner side of the leg with the same ease as the outside.

Owing to the mechanical arrangement of the leg position of this table, the assistant is enabled to take a position between the legs where he can assist intelligently and with a relative degree of physical comfort, as shown in Figure 3.

The leg segments, which can be lowered 9 inches, enable the surgeon to utilize a portable roentgen-ray apparatus in making a fluoroscopic examination of the bones and joints of the lower extremities. The same procedure may be carried out on the upper extremities by adjusting the arm segment. The parts may be presented in an admirable position for the application of surgical dressings or plaster-of-Paris casts. The bony segments may be held by this device with great precision after a fluoroscopic examination of a simple fracture or an open operation has enabled the surgeon properly to approximate the fractured ends of the bones.

By placing the patient on his abdomen, body casts may be applied by lowering the lumbar or thoracic segments. The latter positions will be found especially helpful in applying dressings in operations and in injuries to the spine.

ADVANTAGES

1. The table is constructed on the plan of segments so that the maximum number of anatomic positions may be presented for surgical operation or the application of dressings or plaster-of-Paris casts, with a minimum amount of disturbance during the procedure.

2. It is an apparatus for traction in reducing fractures either by the open or closed method. The completed table carries an adjustable slide for shortening or lengthening the lumbar segment to conform to the age or height of the patient.

3. The mechanical arrangement of the leg segments, which can be swung out at any angle, permits a division of the table so that the field of operation is as accessible on the inside of the leg as on the outside. This also permits what the designer claims is an advantage over any table now, to his knowledge, on the market, name-

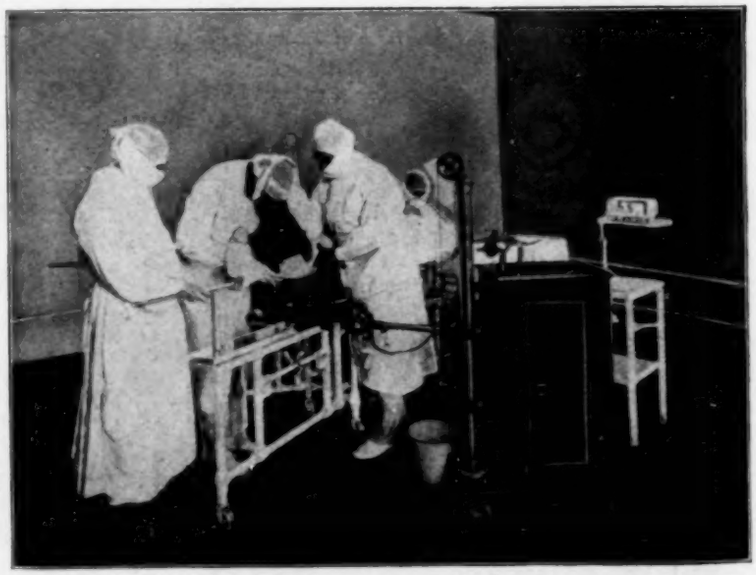

Fig. 5.—Portable roentgen-ray apparatus under leg of patient, made possible by dropping the right leg segment.

ly, the surgical assistant in hip and thigh operations, standing between the patient's legs, assists with more ease and skill than can be afforded in any other position.

PNEUMOCOCCUS TYPES IN RURAL DISTRICTS *

RUSSELL RICHARDSON, M.D.
PHILADELPHIA

Since Dochez and Gillespie [1] published their series of type determinations in cases of lobar pneumonia, much work of this character has been done. Almost all of the work, however, has been done in cases occurring in the cities, or, at least, in localities where contact would be a large factor.

In a series of cases covering four years at the Pennsylvania Hospital, Philadelphia, it appeared very noticeable that many of the Type IV cases presented a history of some exposure, which the patients considered to be the cause of their pneumonia. This was largely absent in the cases caused by the typical types. The latter, on the other hand, presented more frequently the history of a contact of some sort which would have given opportunity for inoculation with the infecting organism. The Type IV cases seemed to be largely due to a diminished resistance, while the typical types seemed to present a true contact infection.

DISTRIBUTION OF TYPES

Type	Number of Cases	Percentage	Average Percentage of Pennsylvania Hospital Cases
I	7	15.2	28.6
II	5	10.8	21.2
III	2	4.3	8.3
IV	32	69.6	41.8

Nichols,[2] working with pneumonia in the army, where, on account of the age and physical condition of the men, diminished resistance would not be expected, found 78 per cent. of all the cases caused by typical type organisms. The men in the army, living as they do in close association continually, afford the best possible opportunity for contact infection with the epidemic types.

It seemed that a study of the distribution of the types of pneumococci found in cases of pneumonia occurring in the country would be of interest. Here is lacking the personal contact with large numbers of people which is so distinctive a feature of life in a city. It was expected, for this reason, that the cases of pneumonia from the country might show a predominance of Type IV organisms.

The collection of sputum was accomplished by sending to a number of physicians, living in small towns and cities, containers with return label. The locations of the physicians was such that while the cases represented the typical patients from the country, yet they were not so far removed from the city that the sputum could not always be received at the laboratory in less than twenty-four hours by mail. In all, sixty-one specimens of sputum were received, and of these type determinations were made in forty-six. Some of those in which no pneumococci were found were not satisfactory specimens, and in some cases the original diagnosis of pneumonia was not confirmed by the physician's own further examination. In all of the forty-six cases there was apparently no question as to the diagnosis of lobar pneumonia.

The method for type determination was that used at the Hospital of the Rockefeller Institute. A few sputums which were apparently not properly collected and which appeared to be merely saliva from the mouth were disregarded.

The accompanying table shows the distribution of types.

It will be noticed here how much higher is the percentage of Type IV cases in the country than the average for four years in the city. In four of the Type I and in two of the Type II cases the patients had such an intimate contact with the city shortly before their pneumonia as to suggest the possibility of their having acquired the organisms there. Apparently without close contact between persons and the consequent chance to spread the infection, the typical types decrease until they cause only a small proportion of the cases of pneumonia.

320 South Sixteenth Street.

* From the Ayer Laboratory of the Pennsylvania Hospital.

1. Dochez, A. R., and Gillespie, L. J.: A Biologic Classification of Pneumococci by Means of Immunity Reactions, J. A. M. A. 61: 727 (Sept. 6) 1913.

2 Mil. Surgeon 41: 149 (Aug.) 1917.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

NEOARSPHENAMINE (See New and Nonofficial Remedies, 1919, p. 41).

Neoarsaminol.—A brand of neoarsphenamine.

Manufactured by the Takamine Laboratory, Inc., New York, under U. S. patent reissue No. 13,849 (Dec. 15, 1914; expires 1931) by license of the U. S. Federal Trade Commission.

Neoarsaminol, 0.15 Gm. Tubes.—Each hermetically sealed tube contains neoarsaminol 0.15 Gm.

Neoarsaminol, 0.3 Gm. Tubes.—Each hermetically sealed tube contains neoarsaminol 0.3 Gm.

Neoarsaminol, 0.45 Gm. Tubes.—Each hermetically sealed tube contains neoarsaminol 0.45 Gm.

Neoarsaminol, 0.6 Gm. Tubes.—Each hermetically sealed tube contains neoarsaminol 0.6 Gm.

Neoarsaminol, 0.75 Gm. Tubes.—Each hermetically sealed tube contains neoarsaminol 0.75 Gm.

Neoarsaminol, 0.9 Gm. Tubes.—Each hermetically sealed tube contains neoarsaminol 0.9 Gm.

MIXED BACTERIAL VACCINES (See New and Nonofficial Remedies, 1919, p. 296).

Swan-Myers Company, Indianapolis.

Swan's Mixed Acne Bacterin (No. 41).—Marketed in 6-Cc. vials, each cubic centimeter containing 25 million killed acne bacilli and 500 million killed *Staphylococcus pyogenes-albus.*

PERTUSSIS BACILLUS VACCINE (See New and Nonofficial Remedies, 1919, p. 287).

Swan-Myers Company, Indianapolis.

Swan's Pertussis Bacterin (No. 38) (Prophylactic).—Marketed in packages of three 1-Cc. vials, containing respectively 50, 100 and 200 million killed pertussis bacilli.

STAPHYLOCOCCUS VACCINES (See New and Nonofficial Remedies, 1919, p. 289).

Swan-Myers Company, Indianapolis.

Swan's Mixed Furunculosis Bacterin (No. 39).—Marketed in 6-Cc. vials, each cubic centimeter containing 500 million killed *Staphylococcus pyogenes-aureus* and 500 million killed *Staphylococcus pyogenes-albus.*

TYPHOID VACCINE (See New and Nonofficial Remedies, 1919, p. 292).

Swan-Myers Company, Indianapolis.

Swan's Typhoid-Paratyphoid Bacterin (No. 42) (Prophylactic).—Marketed in packages of three 1-Cc. vials, one vial containing 500 million killed typhoid bacilli and 250 million each of paratyphoid bacilli A and B, while the other two vials each contain 1 billion killed typhoid bacilli and 500 million each of paratyphoid bacilli A and B.

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SATURDAY, MARCH 22, 1919

THE SYNTHETIC POWERS OF THE MAMMARY GLAND

The mammary gland has long been believed to be the seat of important synthetic activities. The casein, the sugar and to a lesser degree some of the fats of milk are different from any protein, carbohydrate or fat found elsewhere in the body. They have a specific character long recognized. What are the limits of the synthetic power of cells which can produce such distinct and specialized products? Can it produce them entirely de novo as the growing plant builds the most complex organic derivatives from very simple compounds, or is the synthetic capacity of the gland limited to a less profound sort of rearrangement of preformed fragments? It is well known in the case of the nutrition of growth that certain amino-acids are indispensable for the synthesis of tissue proteins. The capacity of the body to produce glycocoll seems to be almost unlimited. But without tryptophan or lysin new tissue cannot be formed; and unless they are supplied in some potential form in the diet, further synthetic progress is limited. Such is the evidence that the growing animal cannot manufacture all amino-acids with equal facility, if at all.

Is the highly specialized mammary gland more proficient than other groups of cells in the body? On the answer to this question depends the decision as to whether special dietary consideration must be given to the lactating individual. The problem has been excellently summarized by a group of investigators at the University of Wisconsin.[1] They remark:

> The mammary gland synthesizes a special sugar, as, for example lactose, but it probably starts with *d*-glucose, which as a precursor offers no unsurmountable difficulties. It makes a variety of fatty acids of special chemical character, but here again, whether originating from carbohydrates or preexisting fats, the chemical steps, at least theoretically, are capable of projecture. This gland makes a special protein, casein, and presumably from amino-acid fragments in the blood. It is also presumed that it makes casein, not through synthesis of amino-acids de novo, but by an orderly assembling, in quantitative relations, of those amino-acids found in the casein molecule. Should an amino-acid, occurring in casein and essential for growth, be absent in the diet, would there be a serious interference in casein building? Or does this gland retain special synthetic powers not shown by muscle cells, and in the absence of a specific amino-acid make it from other nitrogenous fragments?

The answer, in respect to the need of one amino-acid, lysin, the importance of which has been frequently emphasized of late, is furnished by the newest Wisconsin experiments. It is possible to prepare a diet free from proteins yielding lysin, yet adequate in every other respect. On such a ration, normal maintenance seems to be impossible; and judging by the fate of the young which suckle a mother dependent on a lysin-free diet, it appears very probable that the mammary gland cannot synthesize the missing amino-acid. For a time, milk production may proceed at the expense of lysin furnished by the breakdown of less essential tissues; but there is no evidence of reconstruction. As Hart, Nelson and Pitz[1] conclude, the evidence submitted supports the view that, so far as the proteins are concerned, milk secretion, like growth, is ultimately dependent on the quality and quantity of amino-acids ingested with the food. The lesson from this is clear. The importance of a properly selected diet, insuring an adequate supply of superior proteins, cannot be overlooked in the management of the lactating mother.

1. Hart, E. B.; Nelson, V. E., and Pitz, W.: Synthetic Capacity of the Mammary Gland, I, Can This Gland Synthetize Lysin? J. Biol. Chem. **36**: 291, 1918.

ARE ACID-FORMING DIETS DANGEROUS?

The remarkably effective way in which neutrality is regulated in the living organism has attracted attention from many standpoints in recent years. The regulation appears to be essentially physicochemical in nature, involving such a reaction between acids and bases that the hydrogen-ion concentration of the fluids bathing the tissues is practically constant. When it is recalled that our food intake, on the one hand, furnishes a variable mixture of acid and basic substances, while, on the other hand, the processes of metabolism may give rise to such acids as carbonic, lactic, sulphuric and phosphoric, as well as the base ammonia in addition to the potentially available supply of fixed alkalis, one can appreciate the careful adjustments of a chemical sort that must be made to secure a tissue medium of approximately constant reaction out of the variables that play on it. The acid components almost always preponderate; and accordingly there are several physiologic devices that assist in the removal of this excess. Carbonic acid is eliminated through the lungs, while fixed acids are excreted by the kidneys and sometimes, in lesser degree, by the bowel. Stores of alkali seem to be liberated automatically when they are needed to offset a surplus of acid that cannot be rendered inert in other ways.

Everyday experience shows that the normal fluctuating production of acid compounds—the natural end-products of an oxidative metabolism—are apparently taken care of with readiness by the ordinary processes

of elimination and, in lesser degree, neutralization with ammonia. Clinical observations have established, furthermore, that when there is a defect in the eliminating mechanism, such as may appear in certain diseases of the kidneys, the neutrality regulation may be interfered with to a degree that upsets the usual equilibrium and gives rise to pathologic manifestations. To indicate this condition the much abused expression acidosis has sometimes been employed. The "alkali reserve" of the blood may be decreased.

Lately the question as to whether the normal regulatory devices of the organism are adequate to meet the wide variations in reaction that are liable to be presented to it has been considerably debated. Not until the present decade has it been appreciated how extensively the preponderance of base-forming or acid-forming elements, respectively, in the diet may modify the disposal of acids from the body. Foods with a preponderance of acid-forming elements can increase the acidity and ammonia of the urine, and incidentally decrease its solvent power for uric acid. A reverse effect is brought about by liberal ingestion of base-forming foods. The outcome is not a question simply of the use of foods of animal or vegetable origin, respectively. Representatives of both sorts of reaction potentialities can easily be secured from either animal or plant sources. One may well ask whether more attention should not be paid to this intricate question of the influence of definite foods on the regulation of neutrality, since it is possible to modify it by diet quite as well as by the therapeutically familiar sodium bicarbonate. Sherman,[1] who has contributed important observations in this field from his laboratory at Columbia University, New York, has remarked that the benefit to health which so generally results from a free use of milk, vegetables and fruits in the diet may be attributable in part to the fact that these foods yield alkaline residues when oxidized in the body; but this point should not be too greatly emphasized, for there are several other respects in which the eating of liberal amounts of milk, vegetables and fruits is certainly beneficial, notably in supplying calcium, iron and vitamins, and in improving the intestinal conditions.

Clinical pathology has shown that the possibility of inadequate regulation may become a reality in disease. But are there unsuspected dangers of this sort associated with the nutrition of the healthy? Is it advisable to provide more carefully for the balancing of the potential acid and base of the ration? To cite a specific detrimental possibility, will a prolonged excess of acid-forming elements which might exist in natural foods exercise a deleterious effect on protein storage, such as growth and recuperation represent, by deflecting nitrogenous components to the production of ammonia for neutralization? Or will it drain needed fixed bases like calcium and the alkalis from the various tissues, to the detriment of the organism?

The experimental evidence respecting the protective devices of the body has long established the marked tolerance that exists for acid.[2] An exceedingly severe test has recently been contributed by Lamb and Evvard[3] of the Iowa Agricultural Experiment Station to the literature of the acid-base balance of the organism. They fed large and equivalent quantities of acetic, lactic and sulphuric acids, respectively, to growing swine. Those that received the inorganic acid which could not be oxidized further in the organism grew practically as well as the control lot. It seems established anew, therefore, that if the other elements in a natural ration are satisfactory, it is not necessary to balance the acid and basic mineral elements for growing swine. Presumably nutritional failures are often ascribed to excess acidity when other causes are not wholly excluded.

It is interesting to note how the large intake of sulphuric acid, amounting to 300 c.c. of normal acid in addition to that liberated through the body's metabolic processes, was disposed of. As much as three quarters of it was neutralized by means of ammonia. Extra urinary acidity accounted for another 5 or 10 per cent. The experiments also serve to allay the fears of those who suspect that an acid metabolism may rob the body of its calcium. Givens and Mendel[4] have demonstrated that neither acid nor alkali appears to exert any marked effect on calcium storage. The studies of Lamb and Evvard further demonstrated on a different species that mineral acid in large doses failed to cause a significant loss of calcium or interfere with the storage of protein.

The foregoing findings were ascertained by a study of the balance of the elements between the intake and output. Whether, under less normal conditions of diet, body damage may not result to tissues from prolonged "acidosis" in the course of time cannot yet be positively foretold. In a recent study of rabbits, Goto[5] examined the muscles and bones of animals that received a daily dosage of mineral acid. The results were not so conclusive as might be desired; yet the author believes them to indicate that next to the bicarbonates of the body fluids, the first major reserves of alkali drawn on in acid intoxication of rabbits are the alkali phosphates, particularly potassium phosphate, of the mus-

1. Sherman, H. C.: The Chemistry of Food and Nutrition, New York, 1918, p. 282.

2. Henderson, L. J.: J. Biol. Chem. **9**: 403, 1911; Science **37**: 389, 1913; **46**: 73, 1917. McCollum, E. V.: Am. J. Physiol. **25**: 127, 1909-1910. McCollum, E. V., and Hoaglund, D. R.: J. Biol. Chem. **16**: 299, 1913-1914. Steenbock, H.; Nelson, V. E., and Hart, E. B.: J. Biol. Chem. **19**: 399, 1914.

3. Lamb, A. R., and Evvard, J. M.: The Acid-Base Balance in Animal Nutrition, I, The Effect of Certain Organic and Mineral Acids on the Growth, Well Being and Reproduction of Swine, J. Biol. Chem. **37**: 317, 1919; II, Metabolism Studies on the Effect of Certain Organic and Mineral Acids on Swine, ibid., p. 329.

4. Givens, M. H., and Mendel, L. B.: J. Biol. Chem. **31**: 421, 1917. Givens, M. H.: Ibid. **35**: 241, 1918.

5. Goto, K.: Mineral Metabolism in Experimental Acidosis, J. Biol. Chem. **36**: 355, 1918.

cles, and the calcium carbonate of the bones. The bones do not lose calcium phosphate in appreciable amounts. What happens in clinical acidosis cannot yet be foretold.

EXPERIMENTAL POLYNEURITIS

It would be easy to give convincing illustrations of the enormous advantage that has accrued to the pursuit of the medical sciences from the ability to reproduce individual types of disease experimentally in animals. In the case of the infections, the nature of the etiologic agents has been established thereby. Rational therapeutics has received great help from the possibility of studying treatment in experimentally established disease. The so-called deficiency diseases afford a peculiarly characteristic illustration of the almost indispensable advantage of the ability to reproduce them at will. Birds, rats, mice, guinea-pigs and monkeys have shown typical and diverse susceptibilities to the lack of certain food factors in the diet. The cause, cure and prevention of such confusing maladies as beriberi, scurvy, pellagra and rickets in man seem destined to be more effectively understood as the result of the laboratory studies of the past decade than through the cruder, though by no means valueless, empiric observations of the preceding century.

Several of the more prominent human deficiency diseases, like those of infectious origin, seem to have found an analogue in symptoms that can be produced in certain species of animals under defined conditions. Just as not all of the animal forms are equally susceptible to tuberculosis or typhoid fever, for example, so the study of experimental scurvy has heretofore been confined to the guinea-pig and latterly also to the monkey, whereas beriberi has found its best experimental representation in the pigeon or the chicken. The experimental avian polyneuritis that can be induced by an exclusive diet of polished rice has unquestionably contributed much to the understanding of the etiology of beriberi and its prevention.

It is a further step in the direction of progress to be able to induce a comparable polyneuritis through selected deficient diets in the higher forms represented by the mammals. Thanks to the systematic efforts of Voegtlin and Lake[1] in the Hygienic Laboratory of the United States Public Health Service, a method has been evolved. Polyneuritis has been produced in cats and dogs as the result of an exclusive diet of lean beef which was heated for three hours at 120 C. in the presence of alkali (sodium carbonate). Proof of this statement is furnished by the symptomatology, treatment and pathology of the disease noted, which are essentially those characteristic of beriberi. The symptoms observed in these animals were diminution of appetite, constipation, loss of body weight, weakness and sometimes drowsiness, followed by paralytic symptoms, tonic convulsions, spasticity of certain groups of muscles, and disturbances of the circulation and respiration. The oral administration of active preparations of the antineuritic substance of yeast to paralyzed animals is followed promptly by the disappearance of the symptoms, and the continued administration of these preparations prevents the recurrence of the disease. In this respect there is an analogy, if not an identity, between the effects of yeast in preventing or curing polyneuritis and its favorable functioning as a "promoter of nutrition" by furnishing the indispensable water-soluble vitamin.[2]

In the case of these meat-fed animals, the inadequacy of the polyneuritis-producing diet is not attributable to a lack of the fat-soluble vitamin, such as is found in butter and egg yolk, or to a poor quality of proteins in the diet. The primary and principal fault must be associated with the destruction of antineuritic vitamin. Incidentally, it may be recalled that Osborne and Mendel have demonstrated that ordinary flesh (skeletal muscle) is at best poor in water-soluble vitamin.[3]

Fortunately, it appears from the government investigations that although high temperatures and alkaline reaction are a damaging combination for beef, it can be heated for three hours at 120 C. (248 F.) without completely losing its antineuritic properties. Voegtlin and Lake assume that the acid products, like lactic acid, present in flesh are responsible for the normal heat resistance of the antineuritic substance. Heating a food with alkali under pressure for considerable periods is rather drastic treatment from the culinary standpoint. Daniels and McClurg[4] have recently asserted, on the basis of their investigations at the University of Wisconsin, that heating even in alkaline reaction is by no means as destructive of the antineuritic properties of foods as has been alleged, particularly by McCollum. From a considerable experimental experience they regard it improbable that in the commercial canning of foods the vitamin is destroyed to such an extent that too little will be included in the diet when the usual amount of canned food is eaten. Even if there should be a considerable increase in the amount of canned food consumed, they believe that there will still be present enough of the antineuritic vitamin to meet the physiologic requirements, provided the diet is not materially changed in other respects. In the preparation of beef, in any

1. Voegtlin, C., and Lake, G. C.: Experimental Mammalian Polyneuritis Produced by a Deficient Diet, Pub. Health Rep. **34**: 3, 1919; Am. J. Physiol. **47**: 558, 1919.

2. Osborne, T. B., and Mendel, L. B.: The Rôle of Vitamins in the Diet, J. Biol. Chem. **31**: 149, 1917; Yeast in a New Rôle, editorial, J. A. M. A. **66**: 1390 (April 29) 1916; Yeast, ibid. **69**: 826 (Sept. 8) 1917.

3. Osborne, T. B., and Mendel, L. B.: Nutritive Factors in Animal Tissues, I. J. Biol. Chem. **32**: 309, 1917.

4. Daniels, Amy L., and McClurg, Nelle I.: Influence of High Temperatures and Dilute Alkalis on the Antineuritic Properties of Foods, J. Biol. Chem. **37**: 201, 1919.

event, for human consumption this food is rarely exposed throughout to a temperature exceeding 100 C. (212 F.). This procedure would seem to be within the danger limits of damage, so far as the antineuritic properties are concerned.

THE TISSUE FACTOR IN SHOCK

Few words now current in the medical sciences are likely to awaken so much confusion of ideas and uncertainty of judgment as is the expression "shock." It seems to represent a clinical entity of serious importance, in the interpretation of which all except the most critical students have run amuck. One after another the hypotheses to explain shock and the consequent suggestions for treating it have been martialed with a confidence seemingly born of exact knowledge —only to be shattered by conflicting evidence or before the approach of some more convincing theory. Meanwhile, keenly desirous of finding some solution to the serious and ever present problems of the clinical forms of shock, physicians have hastily grasped the current suggestions with eagerness that has been the forerunner of reluctance to abandon each pet theory. There is much sanity, therefore, in an appeal recently made by Dr. S. J. Meltzer[1] urging physiologists, when they undertake to apply their scientifically trained minds to problems of the practice of medicine, to adhere firmly to the careful, critical methods that they are in the habit of employing in their physiologic researches. This he urges, although recognizing that the actual yield to medicine as a consequence may be slow and, perhaps, even small. He also reminded clinical men to imbibe well-established new physiologic facts, but in the application of these facts to stick closely to well-established, careful clinical methods.

Profiting by such warnings, we shall not venture any offhand pronouncements in explanation of shock. But as progress can be initiated only by new observations and renewed discussion, attention is called to an aspect of the question that has only recently begun to attain recognition, namely, the nutritional disturbances that may be an underlying factor. Shock has long been looked on essentially as a circulatory upset. The "primary" shock often comes about so promptly after an injury as to be explained quite naturally as a result of nervous action. It is well known that a condition resembling shock in greater or lesser degree can be induced experimentally by numerous procedures, including mechanical injuries, hemorrhage, overanesthesia, or interference with the blood supply to a part. The more recent point of view has been well summarized by Gesell.[2]

In his research, Gesell considers shock in a very general way as a combined circulatory and nutritional disturbance resulting from a number of forms of tissue abuse which, if left to run their course, may lead to death. Even though these forms of tissue abuse, the initiating causes, may be removed, the fatal issue is not necessarily avoided. Gesell adds that some changes apparently have taken place as a result of the tissue abuse which sustain the condition. The factors in shock are therefore divided into initiating factors and sustaining factors. The initiating factors, says Gesell, ultimately lead to changes in the tissues which have their influence on the "sum of the processes concerned in maintenance and repair" of living tissue. There are cellular damage, increased permeability of cells, transudation, eventual decrease in blood volume, slowing of the blood stream, etc. These represent sustaining factors, some of which are not readily removed.

The analysis of this condition, if in any degree correct, must serve to direct attention away from some of the factors, such as mean blood pressure, that have hitherto been too exclusively made the center of consideration. It is scarcely necessary to recall that the modes of combating surgical shock by injecting drugs intended to raise blood pressure have not been found adequate. Despite an increased blood pressure, the "nutrient flow" to the tissues may be entirely unsatisfactory. They may become damaged. The injury may be chemical in origin and may produce transudation of plasma and stasis of blood. As Gesell pictures this aspect of the problem, the decreased blood volume, eliciting a vascular constriction, reduces the flow of blood to a level below that essential for normal nutrition and far below that essential for deteriorated tissues. The condition is thus sustained by the disturbed nutrition and by the consequent inability on the part of the animal to recover the normal permeability of the vessels and therefore restore the normal blood volume that is so essential for an adequate flow of blood. Since the circulatory and nutritional disturbances are so closely interdependent, one disturbance may become as important as the other.

If the diverse schemes for transfusion, including the use of blood and of alkaline and viscid solutions, have not succeeded in meeting the needs of the damaged tissues, it becomes a problem of the future to recognize the impending circulatory changes before they can do serious damage to the tissues by depriving the latter of proper nutrition. It will further be necessary to devise additional methods to provide damaged tissues with a suitable circulating medium and to combat the abnormal permeability of some of the peripheral vessels. In other words, chemical and nutritional factors as well as nervous and circulatory forces must be taken into consideration in making an adequate study of shock.

1. Meltzer, S. J.: Some Theories of Shock, Pennsylvania M. J. **22**: 129, 1918.
2. Gesell, R.: Studies on the Submaxillary Gland, IV, A Comparison of the Effects of Hemorrhage and of Tissue-Abuse in Relation to Secondary Shock, Am. J. Physiol. **47**: 468, 1919.

Current Comment

MODERN HEALTH ORGANIZATION IN NEW MEXICO

Congratulations to New Mexico, the last one of our states to establish some form of organized state public health machinery. In his report on state public health work, made five years ago, Dr. Chapin said of New Mexico, "It is unfortunate that a state with a population which now probably numbers nearly half a million should do nothing whatever for public health. It is the only state of which this can be said." Happily, this is no longer true. March 14, the bill proposed by the New Mexico Public Health Association passed the senate unanimously. It had already been adopted by the house. The bill provides for a board of three members, one of whom may be a physician. The health commissioner must be a "person having experience and special training in sanitary science and public health administration." His salary is fixed at $3,000. A long list of functions of the state board are enumerated in the measure, among them being power to investigate and control diseases; inspect public buildings, private premises and industries; establish, maintain and enforce quarantine; collect, compile and tabulate reports of marriages, births, deaths and morbidity; disseminate public health information; prevent infant mortality; promote child hygiene; regulate the sanitation and safety for consumption of milk, meats and other foods, and supervise the work of local health authorities. An appropriation of $20,000 is made for the first year. As the last state in the Union to adopt modern public health legislation, New Mexico has been in a position to profit by the experience and mistakes of her sister states. The incorporation in a single public health law of provisions for vital statistics, infant mortality, child hygiene, food control, and supervision of local public health authorities is to be highly commended. The amount appropriated is, of course, too small for a completely organized and equipped state health department; but if the funds available are wisely expended, the people of New Mexico will soon realize that money spent for public health is one of the best investments that the people of the state can make, and will support the new board by larger appropriations. The organization and development of state health activities in New Mexico will be watched with great interest.

NEEDS OF MEDICAL EDUCATION AS REVEALED BY THE WAR

The world war has called attention to special needs in every line of human endeavor. No previous war had so involved the entire world or so hazarded the very existence of practically every civilized government. In no previous war was such extensive use made of those who had reached the highest attainments of human skill and ingenuity. The urgency and extent of this demand naturally drew attention to the scarcity of those who were qualified to render service along highly technical or specialized lines. So in medicine there was an unprecedented demand for physicians of exceptional qualifications and skill in the various specialties, such as pathologists, bacteriologists, psychiatrists, and, of course, expert surgeons along special lines, as, for instance, brain surgery. Here, likewise, the urgency of the demand has forcibly revealed the fact that the supply of physicians having such skill is comparatively limited. This revelation, however, does not call for a violent condemnation of medical education of the past, but does lay special emphasis on the possibilities and aims of medical education in the future. As a matter of fact, the improvements of the last fifteen years have been directly in line with these needs and are, therefore, a matter of congratulation. The United States was never so well supplied with physicians who were as thoroughly trained or as skilled in the specialties, as at the time it entered the world war. Meanwhile, the war has rendered a great service in revealing the possibilities and benefits that will result from higher attainments in medicine. This shows the necessity of continuing the campaign for improvements, not only in undergraduate but also in graduate medical education. If the highest attainments are of such vital importance in great national crises, how much greater will be the service to the public whether there be peace or war.

THE VIRTUES OF OMISSION

In a recent issue of a publication devoted to advertisers, the Cleveland *Plain Dealer* carried a full-page advertisement to give publicity to the fact that "on seventeen important lines of business" it had carried more advertising during 1918 than any other paper in the same city. The seventeen different kinds of business were named and tabulated, ranging from Autos, Books and Stationery, through Electrical and Financial, Railroads and Steamships, to Schools and Colleges. Not a word in the advertisement was said about medical advertising. Possibly the *Plain Dealer* does not carry any, although it is morally certain that it could get all it wanted, for every reputable newspaper is offered more "patent medicine" advertising than it will accept. The significant facts are that either the *Plain Dealer* doesn't cater to medical advertising, or if it does, it makes no effort to give publicity to the amount it gets. That no reputable newspaper ever brags about its desirability as an advertising medium for medical "copy" speaks volumes for the ethical and moral status of the "patent medicine" business.

Winter Hibernation of Mosquito Larvae.—Asst. Epidemiologist T. H. D. Griffiths of the United States Public Health Service in *Public Health Reports*, Nov. 15, 1918, gives the results of his search for mosquito larvae after the advent of cold weather and summarizes the results as follows: Anopheles (*crucians* and *punctipennis*, at least) pass the winter in the larval stage. This is true for northern Louisiana (for *crucians*) during a severe winter for that section. Evidence, though less conclusive, shows that *A. punctipennis*, at least in the larval stage, withstands a severe eastern Virginia winter. Apparently pupation does not occur at low temperature, or until ordinary room temperature obtains. In selected places considerable numbers of anopheles larvae pass the winter as such.

Association News

HOTEL HEADQUARTERS AT ATLANTIC CITY

The Local Committee on Arrangements announces the following as the hotel headquarters for the coming annual session of the American Medical Association to be held in Atlantic City, June 9-13:

General Headquarters	Marlborough-Blenheim
Practice of Medicine	Dennis
Surgery, General and Abdominal	Chalfonte-Haddon Hall
Obstetrics, Gynecology and Abdominal Surgery	Breakers
Ophthalmology	Traymore
Laryngology, Otology and Rhinology	Chelsea
Diseases of Children	Seaside
Pharmacology and Therapeutics	Arlington
Pathology and Physiology	Royal Palace
Stomatology	Craig Hall
Nervous and Mental Diseases	Brighton
Dermatology	Blackstone
Preventive Medicine and Public Health	Shelburne
Genito-Urinary Diseases	Alamac
Orthopedic Surgery	St. Charles
Gastro-Enterology and Proctology	Bothwell

Medical Mobilization and the War

Personnel of the Medical Corps

For the week ending March 14, the Medical Corps contained 20,679 officers, a decrease of 153 from the previous week. The Medical Reserve Corps contained 1,029 officers. The total number of medical officers discharged since the beginning of the war is 12,742.

Medical Veterans of the World War

Forms for applying for membership in the Medical Veterans of the World War, as well as copies of the constitution of that organization, may be obtained from the secretary, Col. F. F. Russell, M. C., U. S. Army, Army Medical School, Washington, D. C. Copies also may be obtained from the headquarters of the American Medical Association; send stamped addressed envelope.

Military Cross Awards

The following medical officers have been awarded the military cross for bravery and distinguished service in action: Irving F. Barnett, Captain, M. C., U. S. Army, Chicago, and Earl R. Chamness, Chicago, Griffith A. Demay, Indianola, Neb., James W. Aldridge, Covington, Ind., William H. Caine, Willoughby, Ohio, Oscar H. Peterson, Lamoni, Iowa, Paul J. Preston, Minneapolis, and George H. Reddick, Wabeno, Wis., Lieutenants, M. C., U .S. Army.

Personal

The President, before his departure for France, March 5, made recess appointments of Walter D. McCaw, Col., M. C., U. S. Army, and Robert E. Noble, Lieut.-Col., M. C., U. S. Army (temporary Major-Gen., M. C., U. S. Army), to be permanent brigadier-generals of that branch to fill the two vacancies created by the act of Congress of July 9, 1918.——Officers of the hospital division of the Surgeon-General's Office tendered a farewell dinner, March 6, to the chief of that division, Winford H. Smith, Col., M. C., U. S. Army, Baltimore, who was retired as chief of the division, and Louis B. Baldwin, Lieut.-Col., M. C., U. S. Army, Minneapolis, in charge of administration of hospitals in the division.——By conference agreement, promotion in the retired list from colonel to brigadier-general has been provided for L. Mervin Maus, Col., M. C., U. S. Army. The Senate had previously passed a separate bill to authorize the rank of brigadier-general for Colonel Maus.

Wounded Slightly

The following officers are reported in the Official Bulletin to have been slightly wounded: Harrison J. McGhee, Major, M. C., U. S. Army, Morrisdale, Pa.; William Gramley, Franklin, Pa., Norman Oscar Nelson, Baltimore, and Leslie C. Russell, Newark, N. J., Captains, M. C., U. S. Army, and Wiles H. Allen, Atlanta, Ga., Bret Verne Bates, Wheaton, Minn., Alfred E. Kinney, Astoria, Ore., John Edward Newhouse, Wilkinsburg, Pa., E. Roger Samuel, Mount Carmel, Pa., Warde Byron Smith, Frankfort, Ohio, and William Westrate, Zeeland, Mich., Lieutenants, M. C., U. S. Army.

Red Cross President Goes to France

Dr. Livingston Farrand, the new chairman of the central committee of the American Red Cross, sailed for France on March 9. He has gone abroad to study the problems of the organization in Europe and to confer with Henry P. Davison, now a member of the executive committee and formerly chairman of the war council, on the international conference of the Red Cross societies called to meet at Geneva thirty days after the declaration of peace. In France he will be joined by a number of American health experts and men from the other allied countries. He will remain abroad until the latter part of April.

Volunteer Medical Service Corps to Be Disbanded

The press reports that the Volunteer Medical Service Corps is to be dissolved on April 1. The list of members in the corps, it is understood, will be turned over to the Public Health Service.

Wounded Severely

The following officers are reported in the Official Bulletin as having been wounded severely: Lomax Gwathmey, Major, M. C., U. S. Army, Norfolk, Va.; Gail K. Butt, Johnstown, Ohio, Edgar R. Hiatt, Portland, Ind., and Walter Harvey Kirkpatrick, Hutchinson, Kan., Lieutenants, M. C., U. S. Army.

Prisoner Released

The following officer who has been prisoner in Germany, is reported to have been released and returned to France: John Steele Abbott, Lieut., M. C., U. S. Army, St. Paul, Minn.

Hospitals Abandoned

The War Department announces that U. S. General Hospital, Long Beach, N. Y., and U. S. General Hospital No. 35, West Baden, Ind., will be abandoned in the very near future. The commanding officer of the hospital at Long Beach has been directed to transfer all patients and dispose of personnel as rapidly as possible in order that salvage and restoration proceedings may start, March 15. General Hospital No. 35 is to be abandoned on June 30, at the expiration of the present lease and no patients are to be sent to this institution after May 1.

Distinguished Service Cross Award

The Commander-in-Chief, in the name of the President, has awarded the Distinguished Service Cross to Elam F. Srygley, Lieutenant, M. C., U. S. Army, Fourth Machine Gun Battalion, Greystone Park, N. J.

"For extraordinary heroism in action near Medeah Ferme, France, Oct. 8 to 9, 1918. When a platoon was being heavily gassed and under intense artillery and machine-gun fire, Lieutenant Srygley voluntarily left the shelter of his dressing station, proceeded to the line, and rendered invaluable aid to the wounded. On October 9, Lieutenant Srygley again left the shelter of his dressinig station, and under intense fire voluntarily went to the assistance of the wounded of the 141st Infantry."

Wounded, Degree Undetermined

The following officers are reported in the Official Bulletin as having been wounded (degree undetermined): Charles H. Mielke, Kansas City, Kan., and Frank C. Robinson, Martinsville, Ind., Majors, M. C., U. S. Army; Robert E. Walsh, Captain, M. C., U. S. Army, New York, and Robert H. Breslin, Providence, R. I., William A. Brewer, Memphis, Tenn., William A. R. Chapin, Springfield, Mass., Lacy W. Corbett, Bishopville, S. C., James S. McNett, Endicott, N. Y., Julius Pincus, Brooklyn, N. Y., Joseph E. Rapuzzi, Ithaca, N. Y., Joseph Armin Stackhouse, Ambler, Pa., and Orlyn Wiseman, Pedro, Ohio, Lieutenants, M. C., U. S. Army.

Army Medical Boards Appointed.—Surgeon-General Ireland has appointed a Board of Medical Officers to take the subject under consideration and to make recommendations regarding the reorganization and the equipment on a peace basis, of Red Cross Base Hospitals. This board consists of Brig.-Gen. Francis A. C. Winter and Cols. Paul F. Straub and Robert U. Pattison. The surgeon-general has also appointed a board of medical officers to consider and make recommendations based on reports of medical officers concerning their experiences during the war. The latter board is comprised of Brig.-Gens. Francis A. Winter and John M. T. Finney and Col. Lewis A. Conner. All these except General Finney and Colonel Conner are members of the old Regular Army Medical Corps.

Results of Mental Tests at Camp Grant

According to a report by Lieut.-Col. George B. Lake, camp surgeon at Camp Grant, the results of the psychologic tests among the officers and men in the camp showed that the members of the Medical Corps rank lower than commissioned officers in any other branch of the service. Officers of the Quartermaster's Corps were rated highest, with an average of 147 points out of a possible 212 in the "Alpha" test. Infantry officers ranked second, with an average of 141.8 points while the Medical Corps was third, with an average of 138.6 points. Sixteen hundred officers were examined of whom 180 were from the Medical Corps. Only one soldier of the 90,000 taking the tests at the camp made 200 points out of a possible 212; seven made from 190 to 199. The showing among the noncoms and enlisted men is materially lower than that of the officers, the record among the enlisted men being made by those at the base hospital.

Praise for Naval Medical Officers

General John A. LeJeune, U. S. M. C., writing unofficially from the headquarters at Heddesdorf, Germany, to Rear Admiral William C. Braisted pays a high tribute to the officers of the Medical Corps of the Navy, and Naval Hospital Corps who served with the Second Division in France. He says:

"The officers and men who served with the marine brigade cannot be commended too highly. Many of them received distinguished service crosses and many received the Croix de Guerre, and many more were recommended for crosses. * * *

"I desire especially to mention Lieutenant Commander Boone. He is my ideal of what a medical officer should be. He is brave as a lion, untiring and self-sacrificing to an extraordinary degree, and a man of great ability and of the soundest judgment. He gave himself completely to his duty, and all of his thoughts were of the sick and wounded. He wore himself out and had to go to the hospital in December. It was an inspiration to be associated with such men as he and Lieutenant-Colonel Derby, the Division surgeon. Boone needs a good long rest. We cannot afford to lose him."

Difference in Pay Not Allowed

Paul Kurt Sauer, Lieut., M. C., U. S. Army, on duty at U. S. General Hospital No. 21, Carlisle, Pa., was denied a claim of difference of pay for exercising higher command from Oct. 3, 1917, to March 3, 1918. In denying the claim the comptroller says: "To entitle an officer to additional pay under Section 7, of the Act of April 26, 1898, for exercising in time of war 'a command above that pertaining to his grade' he must have been 'serving with troops operating against an enemy' and exercising such a command 'under assignment in orders issued by competent authority'. The term 'command,' as used in the statute, means an organization of troops. If the company to which an officer was assigned was a provisional company for training purposes only, and did not constitute a part of the normal organization of the Army, payment of the higher grade is not authorized. The service for which additional pay is claimed was rendered at Camp Funston, Kan. It does not appear that the claimant was exercising a higher command under any assignment in orders issued by competent authority, and it does not appear that he was serving with troops operating against an enemy."

Cited in Orders

The following medical officers attached to the Ninth Infantry Brigade, American Expeditionary Forces, were cited in orders, Dec. 31, 1918, for distinguished conduct in action:

HAROLD H. GOLDING, Lieut., M. C., U. S. Army, Sixty-First Infantry. For distinguished service while in action at Cunel, Oct. 14, 1918. Lieutenant Golding showed absolute disregard for personal safety while caring for and dressing wounded, under constant shell fire.

FRANK A. MOOSE, Lieut., M. C., U. S. Army, 61st Infantry. For distinguished service while in action in Bois-de-Foret near Farm-de-la-Madeline, Oct. 13, 1918. Lieutenant Moose showed absolute disregard for personal safety while caring for and dressing wounded under heavy shell fire, until the field was entirely cleared of the wounded, and remained after the battalion had been relieved for half an hour.

EDWARD H. TONELLE, Lieut. M. C., U. S. Army Detachment, 61st Infantry. For distinguished service while in action at Cunel, Oct. 14, 1918. Lieutenant Tonelle showed absolute disregard for personal safety while caring for and dressing wounded, under constant shell fire.

Charles T. Maxwell, Capt., M. C., U. S. Army, Sioux City, Iowa, has been twice cited for bravery, the second time for going through a heavy barrage and rescuing an officer.——Eli B. Moss, Major, M. C., U. S. Army, on duty with the 123d Feld Artillery, has been cited for bravery.——Emmett Merrick Harrison, Major, M. C., U. S. Army, Chattanooga, Tenn., has been cited for distinguished service in action near Handiomout and Manhewlls, Nov. 9, 10 and 11, 1918, by the example he set under fire of extreme violence, and by his excellent control of the sanitary detachment of the 323d Infantry, Major Harrison accomplished the evacuation of the wounded in the minimum of time. He also personally established and conducted a first aid station for a neighboring regiment, attending to many wounded of that regiment.——John T. Barbee, Major, M. C., U. S. Army, Jackson, Tenn., has been cited for bravery at Chateau-Thierry.

Weekly Bulletin A. E. F.

(Feb. 17, 1919)

MEDICAL SERVICES OF THE A. E. F.

According to Weekly Bulletin 45, at Base Hospital 116 there were 12,000 patients admitted between June 2 and Dec. 8, 1918. Of these, 4,113 were medical cases. A classification of the deaths shows that of 118 cases of bronchopneumonia, thirty-eight were fatal; of eighty-two cases of lobar pneumonia, sixteen were fatal; of six cases of empyema, four were fatal; of two cases of bacillary dysentery, both were fatal; of three cases of typhoid fever, one was fatal; in six mustard gas cases the patients died of a complicating bronchopneumonia.

At Camp Hospital 52, which was increased in capacity from 250 beds to 1,700 beds, there were admitted 14,293 cases from July, 1918, to Jan. 21, 1919. The medical cases comprised a large number of diseases, affording to the members of the medical personnel a wide range of experience.

WEEKLY REVIEW

Typhoid and paratyphoid show a further fall in incidence. The venereal disease rate has fallen noticeably in the District of Paris and the Arrondissement of Tours. No more cases of smallpox have developed. There has been a reduction in the incidence of chickenpox, diphtheria, meningitis and scarlet fever. The annual venereal disease rate per thousand of strength, for the week ending Feb. 5, 1919, for the whole A. E. F., is 37.26.

The following cases of certain communicable disease were reported during the week ending February 16:

Section	Chicken-pox	Diph-theria	Dysen-tery	Measles	Menin-gitis	Para-typhoid	Scarlet Fever	Ty-phoid	Total
1.....	..	22	..	8	1	1	2	4	38
2.....	..	12	..	..	2	..	2	..	16
3.....	..	..	..	..	..	..	..	..	..
4.....	..	..	..	..	..	..	..	..	..
5.....	1	2	..	1	4	..	1	..	9
6.....	..	4	..	2	..	..	..	1	7
7.....	..	..	..	..	..	..	..	..	..
Advance..	3	27	3	13	19	1	11	27	104
Intermed.	..	12	1	8	8	3	8	2	42
Paris.....	..	..	..	2	..	..	..	..	2
Total...	4	79	4	34	34	5	24	34	218

SICK MEN ON TROOP TRAINS

Sacrifice of life from preventable disease results from permitting sick men to travel on troop or passenger trains. Medical examination of men before entrainment for detection of colds, cough, fevers, rashes, etc., must be thoroughly carried out to prevent the development of pneumonia, meningitis, scarlet fever, etc. Patients with these diseases are taken from the trains every day at numerous coffee stops and traffic junctions in the A. E. F. It is the medical officers' business to save every man who is willing to take a chance in order to get home sooner by ignoring a splitting headache and a sore throat. The men's ignorance of the risks they run must not be allowed to contribute to the A. E. F. death rate.

Typhoid and Paratyphoid in the A. E. F.

Fevers of the typhoid-paratyphoid group have continued to appear in many units of the American Expeditionary Forces during the past five or six months. *Weekly Bulletin 46*, February 24, in detailing some investigations of these diseases in several of the divisions, says that the typhoid-paratyphoid carrier rate among all organizations which passed through epidemics of diarrhea or dysentery has been unusually large during the past six months. There have been fifty-nine cases of typhoid-paratyphoid reported from the 79th division since November 1, and an analysis of the epidemic in this division, which referred particularly to carriers, gave some interesting results. Particular attention was given to the cooks and kitchen help. A total of 336 cooks were examined, which included practically all the cooks of the division. Of these men, fifty-seven, or 17 per cent., gave histories of recent attacks of diarrhea; some of them intermittent. Carriers of typhoid or paratyphoid were found as follows: In the 316th Infantry fifteen carriers were found in three companies, among whom three were found in the kitchen; in the 315th Infantry one case was found in each of two companies, and one carrier was found in each of three kitchens; in the 314th Infantry there were seven cases in two companies and none in the third company. Two carriers were found in the kitchen in the latter company and one each in the other two companies. This shows the possibility of transmission through the agency of the kitchen personnel. More than twenty carriers of typhoid and paratyphoid in the A. E. F. were reported in the six weeks prior to the date of this bulletin.

In this connection, the chief surgeon of the A. E. F., Col. Walter D. McCaw, in Circular 69, dated February 17, calls attention to the continued appearance of this group of diseases, and says that medical officers of the forces have failed to grasp the significance of these reports, and that some officers are careless and do not properly appreciate their responsibilities in this regard. The excuse that "there is a war on" will not be tolerated longer. The circular then gives a summary of the incidence of the typhoid-paratyphoid group of diseases in the American forces, calls attention to the importance of early and complete case reports, takes up the clinical and laboratory diagnosis, their prevention and control, and particularly calls the attention of all officers to Sections 184 and 185 of Article 3 of the Manual of the Medical Department, and enjoins compliance. Accompanying the circular is a copy of the department instructions covering the technic of employing the triple lipovaccines.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

NOTE.—In the following list, L. signifies lieutenant; C., captain; M., major; L. C., lieutenant-colonel; Col., colonel, and B. G., brigadier-general.

ALABAMA

Ariton—McFadden, A. D. (L.)
Birmingham — Drennen, W. E. (M.)
York—Oswalt, G. G. (L.)

ARIZONA

Bisbee—Shine, F. E. (M.)
Flagstaff—Manning, G. F. (L.)
Winslow—Hathaway, C. L. (L.)

ARKANSAS

Hot Springs—Coffey, G. C. (L.)
Jonesboro—Lile, L. M. (C.)
Moreland, W. H. (L.)
Texarkana—Dale, J. R., Jr. (L.)

CALIFORNIA

Big Pine — Buckingham, J. R. (L.)
Los Angeles — Bowman, W. B. (M.)
Oldham, J. Y. (C.)
Woodward, A. G. (L.)
Montibello — Brown, N. J., Jr. (L.)
Needles—Boland, A. E. (C.)
Oakland—Wilder, C. H. (C.)
Pomona—Swearingen, F. C. (L.)
Raudsburg—Maxwell, R. E. (L.)
San Francisco — Jackson, W. J. (L.)
San Mateo—Carlton, A. C. (M.)
Santa Barbara—Bell, C. A. (C.)
Saratoga—Burgess, G. W. (C.)

COLORADO

Colorado Springgs—Hoagland, H. W. (L. C.)
Denver—Fowler, H. L. (M.)

CONNECTICUT

Bridgeport—Garlick, G. B. (L.)
New Haven—Verdi, W. F. (M.)

DISTRICT OF COLUMBIA

Washington—Foley, T. M. (M.)

FLORIDA

St. Augustine—Spencer, J. J. (L.)

GEORGIA

Atlanta—Adkins, W. N. (C.)
Calloway, J. T. (C.)
Davis, E. C. (L. C.)
Columbus—Cosby, F. L., Jr. (L.)
Gainesville—Whelchel, C. D. (L.)
Milltown—Smith, L. (L.)
Thomaston—Carter, E. W., Sr. (L.)

IDAHO

Harrison—Didier, F. W. (L.)
Nezperce — Anderson, C. M. N. (L.)
St. Anthony—Louis, J. D. (C.)

ILLINOIS

Cairo—Woelfle, J. E. (C.)
Chicago—Adler, H. M. (M.)
Baer, J. L. (C.)
Chouinard, C. R. (L.)
Gehl, W. H. (L.)
Goodman, J. A. (C.)
Oates, J. F., Jr. (L.)
Plice, W. A. (C.)
Rowe, P. H. (L.)
Small, J. C. (L.)
Wicks, S. (C.)
Dalton City—Stevens, S. L. (L.)
Danville—Garlitz, A. W. (L.)
Decatur—McDavis, J. T. (M.)
Downers Grove — Bebb, W. L. (C.)
East Moline—Johnson, G. F. (C.)
Granite City—Grayson, W. F. (C.)
Lawrenceville — Cooley, E. M. (C.)
Metcalf—Conn, H. I. (L.)
Olmsted—Caraker, O. (L.)
Peoria—Brown, H. E. (L.)
Cooper, H. E. (L.)
Perry—Dunn, B. B. (L.)
Rockford—Willander, A. A. (L.)
Silvis—Chapmann, W. D. (C.)
Taylorville—Meacham, G. T. (L.)

INDIANA

Evansville—Hewins, W. W. (L.)
Rose, B. S. (C.)
Fort Wayne—Mendenhall, E. N. (L.)
French Lick—Rogers, L. (C.)
Hammond—Lloyd, A. W. (C.)
La Fontaine—Fisher, M. F. (C.)
Marion—Gessler, W. F. (L.)
New Castle—Bitler, C. C. (L.)
Richmond—Grosvenor, J. J. (L.)
Tangier—Isaacs, H. H. (L.)
Terre Haute—Asbury, W. D. (C.)

IOWA

Columbia—Bridgman, H. L. (L.)
Davenport—Murphy, J. C. (L.)
Des Moines — Burcham, T. A. (M.)
Glomset, D. J. (M.)
Granger—Smith, C. G. (L.)
Hastings—Christy, E. (C.)
Indianola—Hooper, M. L. (L.)
Keokuk—Smith, F. C. (C.)
Muscatine — Fulliam, E. B. B. (C.)
Sioux City—Koch, G. W. (C.)
Waterloo—Dunkelberg, E. I. (L.)

KANSAS

Eudora—Robinson, W. H. (L.)
Kinsley—Schrader, L. M. (L.)
Newton—Hertzler, R. H. (C.)
Wichita—Callahan, W. P. (L.)
Cheney, J. W. (C.)

KENTUCKY

Ashland—Keffer, S. (L.)
Bond—Hughes, H. A. (L.)
Bowling Green—Donnelly, A. D. (L.)
Cynthiana—McDowell, M. (C.)
Georgetown—Porter, R. W. (C.)
Louisville—Jones, A. V. (L.)
Watkins, W. M. (L.)
Middlesboro—Gibson, T. T. (L.)
Paducah—Harkey, C. E. (C.)
Smalley—Stumbo, E. (L.)

LOUISIANA

Allendale—Lambeth, W. P. (L.)
Pelican—Burdett, J. C. (C.)

MAINE

Bangor—Crane, H. H. (C.)
Belfast—Kilgore, H. L. (C.)
East Millinocket — Scamman, C. L. (C.)
Frankfort—Walton, R. D. (L.)

MARYLAND

Baltimore — Gamble, C. B., Jr. (M.)
Ketzky, J. W. (L.)
Talbott, J. E. (L.)

MASSACHUSETTS

Boston—Emerson, F. P. (M.)
Stone, G. H. (C.)
Brockton—Crimmin, L. P. (L.)
Cambridge—Fiege, H. R. (L.)
Kelleher, S. B. (C.)
Palmer—Hodskins, M. B. (M.)
Princeton—Lewis, E. S. (C.)
Wakefield — Richardson, I. W. (L.)

MICHIGAN

Detroit—Goux, R. S. (L.)
McLean, A. (Col.)
Eureka—Gregory, M. S. (C.)
Flint—Howe, A. N. (L.)
Litchfield—Atterbry, W. H. (C.)
Mardellus—Jones, R. P. (L.)
Muskegon—Eastman, B. R. (L.)
Negaunee—Larson, C. N. (L.)

MINNESOTA

Le Sueur—LeClerc, J. E. (L.)
Minneapolis — Baldwin, L. B. (L. C.)
Scheldrup, N. H. (C.)
Stillwater — Humphrey, W. R. (L.)

MISSISSIPPI

Biloxi—Wallace, J. E. (C.)
Fulton—Senter, C. R. (L.)
Greenwood—Kennedy, J. P. (L.)
Gunnison—Simmons, J. D. (L.)

MISSOURI

Baring—Lumna, F. E. (L.)
California—Burke, J. P., Jr. (L.)
Dexter—Dieckman, W. C. (L.)
Jefferson Barracks—Will, W. H. (L.)
Kansas City—Abramopoulos, C. A. (C.)
Breyfogle, H. A. (C.)
King City—Blacklock, D. E. (C.)
Maitland—Beard, F. G. (L.)
Patton—O'Kelley, H. T. (L.)
St. Louis—Raithel, G. H. (M.)
Wright, C. G. (C.)
Waldron—Atchison, C. H. (L.)

MONTANA

Billings—Gerhart, E. A. (C.)
Butte—Ungherini, V. O. (L.)
Gildford—Hopkins, M. (L.)
Livingston—Stuart, J. E. (L.)
White Sulphur Springs — Rogers, W. B. (L.)

NEBRASKA

Cedar Rapids — Burgess, F. D. (C.)
Lodge Pole—Scott, F. W. (L.)
Swanton—White, H. E. (L.)

NEVADA

Kimberly—Larzalere, R. V. (L.)

NEW JERSEY

Atlantic City—Stern, S. (M.)
Williams, G. (C.)
Newark—Golann, D. L. (C.)
Hirschberg, S. (L.)
Paterson—McCoy, J. C. (L. C.)
Plainfield—Lufburrow, C. B. (C.)
Sea Isle City—Smith, T. (L.)
Trenton—Newell, W. A. (L.)
Verona—Davies, G. W. (L.)
West Hoboken—Olpp, A. E. (L.)
Urevitz, A. (L.)

NEW MEXICO

Roswell—Montgomery, C. F. (L.)

NEW YORK

Brooklyn — Pulvermacher, T. L. (L.)
Ruzicka, O. J. (L.)
Sullivan, R. P. (Col.)
Buffalo—Panzarella, C. C. (L.)
Persons, P. S. (L.)
Cobleskill—Beard, D. W. (C.)
New York—Brace, D. E. (C.)
Colp, R. (L.)
Curtin, J. F. (L.)
Farnum, W. B. (L.)
Ford, W. M. (M.)
Friedland, H. (L.)
Goldblatt, L. I. (L.)
Jones, M. F. (L.)
Leo, J. (C.)
Lobsenz, M. (L.)
Murphy, J. B. (M.)
Robertson, O. H. (M.)
Sautter, C. M. (L.)
Stadie, W. C. (L.)
Stowell, D. D. (L.)
Ossining—Cremon, L. D. (L.)
Rochester—Hanes, E. L. (M.)
Standish—Vosburgh, F. (L.)

NORTH CAROLINA

Buffalo City—Milliken, J. S. (L.)
Charlotte—Matheson, J. P. (C.)
Clinton—Kerr, J. D., Jr. (L.)

NORTH DAKOTA

Jamestown—Depuy, T. L. (L.)
Minot—Newlove, J. W. (L.)

OHIO

Canton—Feingold, S. J. (L.)
Kramer, J. G. (L.)
Cincinnati—DeCourcy, J. F. (L.)
Layport, W. L. (L.)
Tench, E. M. (L.)
Wottring, L. C. (L.)
Cleveland—Norlin, C. F. G. (L.)
Findlay—Coopers, E. H. (C.)
Hamilton—Skinner, D. M. (L.)
Lancaster—Shaeffer, A. M. (L.)
Mineral City — Puncheon, W. S. (L.)
National Military Home—Dixon, F. W. (L.)
Salem—Yaggi, H. K. (C.)
Toledo—Bowman, G. F. (L.)
Urbana—Barger, F. F. (L.)

OKLAHOMA

Canton—Buchanan, F. R. (L.)
Chelsea—Howard, W. A. (L.)
Lawton—Brashear, J. (C.)
Tulsa—Jergeson, H. A. (L.)
Wynnewood—Baker, R. L. (L.)

OREGON

Corvallis—Joseph, E. C. (L.)
Portland—Benson, R. L. (M.)
Odell, J. M. (L.)
Rosenberg, H. L. (L.)
The Dalles—Nitschke, E. W. (L.)
Warmspring — Fulkerson, C. D. (C.)

PENNSYLVANIA

Birdsboro—Lytle, F. P. (L.)
Carrick—Thomas, C. M. (L.)
Duryea—Winter, S. M. (L.)
McDonald—Douglass, J. A. (L.)
New Bloomfield — Stein, M. I. (L.)
Philadelphia — Albright, W. C. (C.)
Boyle, J. P. (L.)
Bransfield, J. W. (L.)
Cattell, H. W. (M.)
Laws, G. M. (C.)
McCutcheon, J. H. (L.)
McIntosh, W. P. (C.)
Rhein, J. H. W. (M.)
Walsh, W. H. (L. C.)
Worden, C. B. (C.)
Pittsburgh — Pearlman, R. H. (L.)
Wendt, C. I. (C.)
Wiant, M. (L.)
Prospect—Lowry, W. T. (L.)
Reading—Schantz, H. F. (L.)
Ruffsdale—Poole, C. H. (L.)
South Bethlehem—Maysels, A. J. (L.)
Uniontown—Bierer, C. D. (L.)
Wapwallopen—Santee, C. L. (L.)

RHODE ISLAND

Bradford—Marr, D. F. (L.)
Providence—Churchill, K. (L.)
Gallagher, H. J. (L.)
Persky, M. A. (L.)
Woonsocket—Fitzpatrick, E. E. (L.)

SOUTH CAROLINA

Charleston—Preston, R. W. (L.)
Greer—Lanford, M. L. (L.)
Hagood—Moore, T. M. (L.)

SOUTH DAKOTA

Hecla—Carson, O. E. (L.)
Oldham—Long, G. J., Jr. (L.)

TENNESSEE

Arrington—Delaney, J. P., Jr. (L.)
Chattanooga—Steele, W. (L.)
Knoxville—LeTellier, F. S. (L.)
Memphis—Johnson, J. E. (C.)
Nashville—Harris, A. W. (C.)
Windrock—Black, M. L. (L.)

TEXAS

Austin—Kreisle, M. F. (L.)
Murray, R. V. (L.)
Brady—McCall, J. G. (C.)
Brenham—Knolle, K. C. (L.)
Childress—Jernigan, J. H. (C.)
Corsicana—Jester, H. B. (M.)
Dallas—Mohler, D. A. (C.)
Samuell, W. W. (C.)
Smith, W. E. (L.)
Eastland—Whittington, H. D. (C.)
Eddy—Smartt, M. P. (C.)
Fort Worth—Lundy, S. A. (L.)
Galveston—Hastings, M. E. (L.)
Gilmer—Graydon, O. S. (L.)
Gonzales—Dunning, W. T. (L.)
Loraine—Stevenson, C. W. (L.)
Lott—Parrott, F. C. (C.)
San Antonio—Shipman, E. D. (L.)

UTAH

Salt Lake City—Galligan, J. J. (C.)

VERMONT

Manchester Center—Kelley, L. M. (L.)
St. Albany—King, J. S. (C.)
West Brattleboro—Hunter, G. B. (L.)

VIRGINIA

Clinchport—Fugate, C. R. (L.)
Norfolk—Browne, R. W. (M.)
Crosby, A. V. (L.)
Richmond—Geisinger, J. F. (C.)
Hillsman, B. (M.)
Winchester—Cox, W. (L.)

WASHINGTON

Centralia—Bickford, F. J. (C.)
Pullman—Patee, E. T. (L.)
Seattle—Nicholson, E. (L.)
Peterson, J. R. (L.)
Toppenish—Wimberly, G. W. (L.)
Yakima—Loudon, J. P. (L.)
White Salmon—Gearhart, J. W. (L.)

WEST VIRGINIA

Charleston—Moore, J. W.
Spencer—Bull, S. W. (L.)
Summit Point—Womack, J. E. (L.)

WICONSIN

Allenton—Lynch, H. M. (L.)
Birnamwood—Baker, W. F. (L.)
Milwaukee—Brown, F. V. (M.)
Superior—Giesen, C. W. (C.)
Tomah—Sheehy, T. J. (L.)
Turtle Lake — Cornwall, W. B. (L.)

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

CALIFORNIA

Los Angeles—Smith, R.
Oakland—Kuder, W. S.
San Francisco—Butler, E. W.
Chamberlain, W. E.
Inman, T. G.

CONNECTICUT

New Haven—Townshend, R.

FLORIDA

Cocoa—Deboe, M. P.
Tampa—Hodgson, G. H.

ILLINOIS

Chicago—McNealy, R. W.

KANSAS

Rosedale—Sanders, C. E.

MASSACHUSETTS

Revere—Newton, W. C.

MISSOURI

Kansas City—Barker, F. C.
Lamar, F. C.

MONTANA

Butte—Duthcer, J. E.

NEW HAMPSHIRE

Manchester—Pattee, H. S.
Pherson, F. J.

NEW YORK

New York—Scaison, H.

OHIO

Canton—Leavenworth, L. C.
Cincinnati—Albers, F. J.
Coppock, F. M.

OREGON

Portland—Smalley, R. B.

RHODE ISLAND

Providence—Buffum, W. P.
DeWolf, H.

VIRGINIA

Danville—Fowlkes, W. B.

WASHINGTON

Seattle—Griswold, W. S.

ORDERS TO OFFICERS OF THE MEDICAL CORPS, U. S. ARMY

Alabama

To Biltmore, N. C., from Long Beach N. Y., Lieut. G. LOTTERHOS, Birmingham.

To Camp Knox, Ky., from Camp Sheridan, Major W. O. H. PROSSER.

To Camp Bragg, N. C., as camp surgeon, from Camp Sheridan, Col. W. M. SMART.

To Washington, D. C., St. Elizabeth's Hospital, from Camp McClellan, Lieut. A. B. PICKERING, Plantersville. Surgeon-General's Office, from Camp Dix, Major W. E. DRENNEN, Birmingham.

Arkansas

To Camp Grant, Ill., base hospital, from Camp Sheridan, Lieut. R. C. WOLFE, Little Rock.

California

To San Francisco, Calif., from Camp Lewis, Major H. ROGERS, Bakersfield. Letterman General Hospital, from Camp Kearney, Major W. C. THOMAS.

To Vancouver Barracks, Wash., to examine the command for nervous and mental diseases, from Camp Kearney, Capt. C. B. DIRKS, Eagle Rock.

To Whipple Barracks, Ariz., from Camp Shelby, Capt. T. R. McNAB, Los Angeles; from Fort McDowell, Major O. D. ANDERSON, Ocean Park.

Colorado

To Denver, Colo., from Whipple Barracks, Capts. H. R. McGRAW, A. G. WALKER, Denver.

To Fort Ontario, N. Y., from Camp Logan, Capt. E. D. BURKHARD, Trinidad.

To Washington, D. C., Surgeon-General's Office, from Hoboken, Major W. W. WILLIAMS, Denver.

Connecticut

To Camp Meade, Md., from Camp Polk, Lieut. E. K. DEVITT, Lyme.

To Camp Meigs, D. C., to examine the command for cardiovascular diseases, from Camp Sheridan, Lieut. H. A. SOLOMON, Waterbury.

To Fort McHenry, Md., from Camp Dix, Lieut. R. B. STREET, Suffield.

To Fort Sam Houston, Texas, base hospital, from Camp Logan, R. F. SCHOLL, New Haven.

To New Haven, Conn., from Camp Sheridan, Capt. R. V. QUINLAN, Meriden.

To Williamsbridge, N. Y., from Camp Meade, Lieut. H. A. MARTELLE, Hartford.

District of Columbia

To Camp Gordon, Ga., as commanding officer of base hospital, from Walter Reed General Hospital, Col. W. R. DAVIS.

To report to the governor, Panama Canal, from Army Medical School, Col. E. B. VEDDER.

To San Francisco, Calif., from New Haven, Major A. G. COMPTON, Washington.

Florida

To Camp Gordon, Ga., from Camp Sheridan, Capt. M. E. HECK, St. Augustine.

Georgia

To Biltmore, N. C., from Denver, Major W. A. JACKSON, Atlanta.

To Camp Grant, Ill., base hospital, from Camp Logan, Lieut. C. M. WEST, Atlanta.

To Camp Holabird, Md., as camp surgeon, from Camp Hancock, Lieut. Col. C. C. HILLMAN.

To Fort McPherson, Ga., from Camp Dix, Capt. C. E. DOWMAN, Atlanta.

To Walter Reed General Hospital, for instruction, and on completion *to his proper station*, from Colonia, Capt. J. M. BARNETT, Albany.

Illinois

To Camp Lee, Va., base hospital, from Camp Jackson, Lieut. H. H. SERED, Chicago.

To Camp Sheridan, Ala., to examine the command for nervous and mental diseases, from Camp Wheeler, Capt. J. K. POLLOCK, Elgin.

To Chicago, Ill., from Camp Jackson, Lieut. J. D. ELLIS, Chicago; from Long Beach, N. Y., Lieut. A. N. MUELLER, Rock Island.

To Colonia, N. J., from Camp Hancock, Capt. C. M. WILMOT, Speer.

To Fort Ethan Allen, Vt., from Chicago, Col. H. D. SNYDER.

To Fort Sheridan, Ill., from Fort Riley, Lieut. J. M. DOWNS, Morrison.

To Hoboken, N. J., from Camp Greene, Lieuts. S. E. LYNCH, R. W. E. SPRENG, Chicago; from Camp McClellan, Lieut. E. M. PRICE, Astoria.

To report to the commanding general, Northeastern Department, from Camp Logan, Major G. A. CLOTFELTER, Hillsboro.

To Washington, D. C., from Camp Grfant, Lieut.-Col. H. C. MICHIE. Surgeon-General's Office, from Camp Custer, Lieut.-Col. E. E. IRONS, Chicago.

The following order has been revoked: *To Plattsburg Barracks, N. Y.*, from Fort Sheridan, Capt. W. H. GAMBILL, Centralia.

Indiana

To Camp Logan, Texas, from Houston, Capt. J. B. MAPLE, Shelburn.

To Camp Wadsworth, S. C., base hospital, from Camp Gordon, Lieut. J. F. CASPER, Jasper.

To Camp Zachary Taylor, Ky., base hospital, from Camp Grant, Lieut. S. F. TEAFORD, Paoli.

To Fort Sam Houston, Texas, base hospital, from Walter Reed General Hospital, Capt. W. W. CAREY, Fort Wayne.

To Fort Sill, Okla., base hospital, from Camp Dix, Major E. K. WESTHAFER, Newcastle.

To Hoboken, N. J., from Camp McClellan, Lieut. B. J. WYLAND, Mishawaka.

To Lakewood, N. J., from Camp Hancock, Capt. W. L. ROYSTER Indianapolis.

To Walter Reed General Hospital, D. C., for instruction, and on completion *to his proper station*, from Camp A. A. Humphreys, Capt. F. R. CLAPP, South Bend; from Camp Lee, Lieut. J. W. THOMSON, Garrett.

Iowa

To Camp Sherman, Ohio, base hospital, from Camp Sevier, Capt. E. L. HAWKINS, Council Bluffs.

To Fort Des Moines, Iowa, from Camp Dix, Major A. R. HOOVER, Des Moines.

To Hoboken, N. J., from Camp Dodge, Capt. J. H. TALBOY, Onawa; from Camp Greene, Lieut. T. H. CHESTNUTT, Mount Pleasant.

The following order has been revoked: *To Fort Sheridan, Ill.*, from Camp Dix, Major S. C. LINDSAY, Independence.

Kansas

To Camp Dodge, Iowa, base hospital, from Camp Logan, Capt. L. W. BAXTER, Columbus.

To Fort D. A. Russell, Wyo., from Camp Logan, Lieut. W. LAPAT, Larned.

To Hoboken, N. J., from Camp McClellan, Lieut. J. B. BLADES, Randall.

To Jefferson Barracks, Mo., from Camp Beauregard, Lieut. F. A. TRUMP, Ottawa.

To Washington, D. C., Surgeon-General's Office, from Fort Riley, Lieut.-Col. G. I. JONES.

Kentucky

To Camp Knox, Ky., as camp surgeon, from Camp Zachary Taylor, Lieut.-Col. V. E. MILTENBERGER.

To Fort Logan H. Roots, Ark., from Camp Dix, Lieut. C. E. KIELY, Covington.

To Fort McPherson, Ga., from Camp Gordon, Capt. F. W. HINKLE, Louisville.

To Jefferson Barracks, Mo., from Camp Wheeler, Major L. B. MOREMEN, Irvington.

Louisiana

To Fort Sheridan, Ill., from Camp Beauregard, Capt. T. B. CRACROFT, Kelly.

Maine

To Camp Upton, N. Y., base hospital, from Walter Reed General Hospital, Capt. L. B. HAYDEN, Livermore Falls.

Maryland

To Fort Ontario, N. Y., from Camp Sevier, Lieut. P. PEARLSTEIN, Baltimore.

To Garden City, N. Y., from Camp Greene, Lieut. V. L. MAHONEY, Cantonsville.

To Walter Reed General Hospital, D. C., for instruction, and on completion *to Colonia, N. J.*, from Camp Shelby, Lieut. D. F. ELMENDORF, Baltimore.

Massachusetts

To Aberdeen, Md., from Camp McClellan, Lieut. C. S. NEISTADT, Fall River.

To Army Medical School for instruction, from Camp Dix, Capt. A. R. MacAUSLAND, Boston; from Walter Reed General Hospital, Lieut. E. KING, Boston.

To Chicago, Ill., from Camp Dix, Capt. H. C. MARBLE, Boston.

To East Norfolk, Mass., from Camp Dix, Capt. R. A. HATCH, Boston.

To Fort Leavenworth, Kan., from Fort McPherson, Major H. L. CONNER, Haverhill.

To Fort Ontario, N. Y., from Camp Wadsworth, Lieut. H. B. DUNHAM, Brockton.

To Hoboken, N. J., from Camp Greene, Capt. J. H. LAWRENCE, Brockton.

To report to the commanding general, Northeastern Department, from Camp Wadsworth, Major J. S. HART, Lincoln.

The following order has been revoked: *To Newport, News, Va.*, from Camp Grant, Lieut. A. E. MILLS, Somerville.

Michigan

To Camp Custer, Mich., base hospital, from Newport News, Major W. N. KENZIE, Richland.

Minnesota

To Chicago, Ill., from Camp Sevier, Capt. C. W. PAULSON, Minneapolis.

To Fort Snelling, Minn., from Camp Dix, Capt. A. E. DE TUNCQ, Preston.

To San Francisco, Calif., from Camp Lewis, Major J. F. AVERY, Minneapolis.

Missouri

To Army Medical School, from Camp Logan, Major M. C. STONE, Springfield.

To Camp Meade, Md., to examine the command for nervous and mental diseases, from Camp McClellan, Capt. F. J. SULLIVAN, St. Louis.

To Camp Pike, Ark., base hospital, from Fort Logan H. Roots, Lieut. E. D. EDWARDS, St. Louis.

To Cape May, N. J., from Camp Dix, Capt. C. A. VOSBURGH, St. Louis.

To Fort Des Moines, Iowa, from Camp Wheeler, Lieut. J. O'CONNELL, St. Louis.

To Fort Leavenworth, Kan., from Philadelphia, Major E. G. MARK, Kansas City.

To Fort Sam Houston, Texas, base hospital, from Fort McPherson, Capt. C. D. CANTRELL, Kansas City.

To Jefferson Barracks, Mo., from Camp Dix, Lieut. A. E. STRAUSS, St. Louis; from Camp Logan, Capt. G. S. DRAKE, St. Louis, from Camp Meade, Capt. F. C. ESSELBRUEGGE, St. Louis.

To Plattsburg Barracks, N. Y., from Camp McClellan, Capt. M. L. UNDERWOOD, St. Joseph.

To report to the commanding general, Eastern Department from Plattsburg Barracks, Major G. E. SCRUTCHFIELD, Marshall.

To St. Louis, Mo., from Fort Sheridan, Major F. W. BAILEY, St. Louis.

Nebraska

To Camp Dodge, Iowa, base hospital, from Camp Logan, Capt. F. A. WELLS, Axtell.

To Camp Jackson, S. C., base hospital, from Camp Greene, Capt. C. H. NEWELL, Omaha.

To Fort Des Moines, Iowa, from Camp Dix, Major H. W. ORR, Lincoln.

To Fort Leavenworth, Kan., from Fort Sheridan, Capt. D. C. HILTON, Lincoln.

New Hampshire

To Camp Meade, Md., base hospital, from Walter Reed General Hospital, Capt. B. W. CARR, Pittsfield.

To Camp Zachary Taylor, Ky., base hospital, from Camp Logan, Capt. F. N. SHIPP, Pittsfield.

New Jersey

To Fort Ontario, N. Y., from Lakewood, Lieut. J. R. COMMORATO, Jersey City.

To Fort Riley, as camp surgeon, from Camp Dix, Col. R. L. CARSWELL.

To Hoboken, N. J., from Camp McClellan, Capt. M. W. CURRAN, Chatsworth; Lieut. F. G. STRAHAN, Long Branch.

To report to the commanding general, Northeastern Department, from Camp Dix, Lieut. H. E. GILLETT, Ramsey.

To Washington, D. C., Surgeon-General's Office, from Hoboken, Col. C. C. COLLINS.

The following order has been revoked: *To Newport News, Va.*, from Camp Hancock, Lieut. C. B. KEENEY, Summit.

New Mexico

To Washington, D. C., from Fort Bayard, Major B. F. MORRIS.

New York

To Army Medical School, from Camp Meade, Major O. TEAGUE, Staten Island.

To Boston, Mass., from Fort Logan H. Roots, Lieut. F. J. LEONARD, Ilion.

To Camp Dix, N. J., base hospital, from Camp Hancock, Lieut. M. B. SPONSLER, New York; from Camp Upton, Lieut. C. BARNERT, New York.

To Chicago, Ill., from Camp Logan, Lieut. J. M. BLANK, Brooklyn; from Edgewood, Md., A. I. LOWENTHAL, New York.

To Colonia, N. J., from Camp Sevier, Lieut. L. D. ROCHE, New York.

To East Norfolk, Mass., from Camp Upton, Lieut. J. M. L. BRUNO, Brooklyn.

To Eastview, N. Y., from Camp Dix, Major L. B. MEYER, New York.

To Fort McHenry, Md., from Camp Beauregard, Capt. W. G. BOWERMAN, New York; from Camp Dix, Lieut. L. K. HENSCHEL, New York.

To Fort Ontario, N. Y., from Lakewood, Lieut. E. R. WARE, New York.

To Governors Island, N. Y., from New York, Major W. T. HELMUTH New York.

To Hoboken, N. J., from Camp McClellan, Capt. V. B. HAMLIN, Clinton; from Long Beach, N. Y., Lieut. J. L. MANGANO, Buffalo.

To Lakewood, N. J., from Camp Gordon, Lieut. A. TOWBIN, New York.

To Otisville, N. Y., from Camp Dodge, Capt. O. S. ESSENSON, New York; from Camp Meade, Lieut. R. J. LYNCH, Otisville.

To Philadelphia, Pa., from Camp Sevier, Capt. J. H. EVANS, Buffalo.

To Rockefeller Institute for instruction, and on completion *to his proper station*, from Camp Lee, Lieut. W. W. TRACEY, New York.

To San Francisco, Calif., Letterman General Hospital, from Fort Snelling, Major A. S. CLARK, New York.

To Walter Reed General Hospital, D. C., for instruction, and on completion *to his proper station*, from Camp Upton, Lieut. T. J. RYAN, New York; from Lakewood, Capt. J. B. RINGLAND, Oswego; from Pittsburgh, Lieut. W. L. MUNSON, Granville.

To Washington, D. C., Surgeon-General's Office, from Hoboken, Col. T. W. SALMON, New York.

North Carolina

To Biltmore, N. C., from Camp Dix, Major R. F. LEINBACK, Charlotte.

To Fort Ontario, N. Y., from Camp Wadsworth, Lieut. J. M. EARNHARDT, Rockwell.

To Hoboken, N. J., from Camp Greene, Lieut. N. S. STIREWALT, Greensboro.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Capt. J. P. MATHESON, Charlotte.

North Dakota

To Hoboken, N. J., from Camp Greene, Major P. G. REEDY, Regan.

Ohio

To Camp Sherman, Ohio, base hospital, from Camp Greene, Capt. H. L. BABCOCK, Waterville; Lieut. C. G. DEW, Nelsonville.

To Denver, Colo., from Camp Abraham Eustis, Capt. W. S. P. DONEHOO, Wintersville.

To Newport News, Va., from Camp Beauregard, Lieut. E. HUFFER, Columbus.

To Plattsburg Barracks, N. Y., from Camp Zachary Taylor, Lieut. C. C. SHEARER, Cincinnati.

To St. Louis, Mo., from Camp Logan, Lieut. L. F. LAUF, Columbus.

The following order has been revoked: *To Fort Sheridan, Ill.*, from Fort Oglethorpe, Lieut. W. M. LEONARD, Cleveland.

Oklahoma

To Camp Jackson, S. C., from Fort Riley, Lieut. W. M. RIVERS, Douthat.

Pennsylvania

To Army Medical School, from Camp Logan, Capt. J. C. SIMPSON, Morristown.

To Camp Pike, Ark., base hospital, from Biltmore, Major C. P. BROWN, Glen Olden.

To Camp Shelby, Miss., base hospital, from Camp Hancock, Major F. B. UTLEY, Pittsburgh.

To Fort Snelling, Minn., from Camp Dix, Capt. E. H. ERNEY, Philadelphia.

To Pittsburgh, Pa., from Long Beach, N. Y., Lieut. H. C. GRIM, Trumbaursville.

To Rockefeller Institute for instruction, and on completion *to his proper station*, from Army Medical School, Capt. C. E. LLEWELLYN, Philadelphia.

To Walter Reed General Hospital, D. C., for instruction, and on completion *to his proper station*, from Fort McHenry, Capt. W. T. ELLIS, Jr., Philadelphia.

The following order has been revoked: *To Camp Sherman, Ohio*, base hospital, from Williamsbridge, Major J. R. V. WOLFE, Norristown.

Philippine Islands

To San Francisco, Calif., from Philippine Islands, Major A. M. GIFFIN, Manila.

Rhode Island

To Camp Jackson, S. C., base hospital, from Camp Sevier, Capt. C. E. HAWKES, Providence.

To Rockefeller Institute for instruction in the treatment of infected wounds, and on completion *to his proper station*, from Camp Meade, Lieut. J. E. McCABE, Providence.

To Walter Reed General Hospital, D. C., for instruction, and on completion *to his proper station*, from Camp Dix, Lieut. E. M. PORTER, Providence.

To Washington, D. C., St. Elizabeth's Hospital, from Markleton, Capt. H. G. PALMER, Providence.

South Carolina

To Camp Wadsworth, S. C., base hospital, from Camp Greene, Lieut. W. E. FULMER, Columbia.

Tennessee

To Camp Bowie, Texas, base hospital, from Camp Logan, Lieut. H. P. CALMES, Memphis.

To Fort McPherson, Ga., from Camp McClellan, Capt. T. M. HARPER, Medina; from Hoboken, Capt. R. W. DAKE, Nashville.

To Oteen, N. C., from Camp Sheridan, Capt. F. B. BREWER, Nashville.

To report to the commanding general, Northeastern Department, from Camp Gordon, Major E. R. HOCHSTETTER, Jr., Chattanooga.

Texas

To Camp Travis, Texas., base hospital, from Fort Sheridan, Capt. R. M. FANCHER, Houston.

To Fort Sam Houston, Texas, base hospital, from Camp Logan, Lieuts. R. A. THARP, Austin; G. G. WYCHE, Iago.

To Hoboken, N. J., from Camp MacArthur, Lieut.-Col. S. W. FRENCH.

To Jefferson Barracks, Mo., from Camp Logan, Capt. J. E. COOKE, Mart.

To Newport News, Va., from Camp Beauregard, Capt. A. M. FREELS, Denison.

To report to the commanding general, Northeastern Department, from Camp Beauregard, Lieut. J. W. McKEE, Jr., Houston.

To Rockefeller Institute for instruction, and on completion *to his proper station*, from Hoboken, Lieut. L. F. BLAND, Dallas.

To San Francisco, Calif., from Camp Abraham Eustis, Capt. W. V. PRUETT, Brownsville.

To Walter Reed General Hospital, D. C., for instruction, and on completion *to his proper station*, from Fort McHenry, Capt. M. W. SHERWOOD, Temple.

Utah

To Denver, Colo., from Fort Douglas, Lieut. J. M. GRAHAM, Fruita.

To Hoboken, N. J., from Camp Shelby, Lieut. L. C. POTTER, Provo.

Vermont

To Camp Bowie, Texas, base hospital, from Camp Wadsworth, Capt. P. J. McKENZIE, Burlington.

To Hoboken, N. J., from Long Beach, N. Y., Lieut. A. L. FOGG, Underhill Center.

Virginia

To Fort McHenry, Md., from Camp Greene, Capt. R. S. FITZGERALD, Richmond.

Washington

To Army Medical School for instruction, from Camp Dix, Major J. C. GRAVES, Jr., Spokane.

To Fort George Wright, Wash., from Hoboken, Lieut.-Col. S. E. LAMBERT, Spokane.

To report to the commanding general, Western Department, from Camp Lewis, Capt. J. R. STEAGALL, Tacoma.

To San Francisco, Calif., Letterman General Hospital, from Army Medical School, Major C. F. EIKENBARY, Spokane.

Wisconsin

To Camp Custer, Mich., base hospital, from Camp Upton, Lieut. H. C. SALTZSTEIN, Milwaukee.

To Washington, D. C., Surgeon-General's Office, from Camp Dix, Lieut.-Col. N. M. BLACK, Milwaukee.

ORDERS TO OFFICERS OF THE UNITED STATES PUBLIC HEALTH SERVICE

Asst. Surg.-Gen. C. C. PIERCE, proceed to Chattanooga, Tenn, for inspection of conditions relative to the venereal disease clinics.

Asst. Surg.-Gen. A. J. McLAUGHLIN, proceed to New York and Boston for inspection of public health activities.

Asst. Surg.-Gen. L. L. LUMSDEN (Reserve), proceed to Lexington, Ky., to address the Kentucky Council of Defense.

Sen. Surg. FAIRFAX IRWIN, report at bureau of conference relative to taking over certain hospitals offered by the War Department.

Sen. Surg. P. C. KALLOCH, deliver lectures on health matters at Rockland, Me., on request of U. S. Shipping Board.

Sen. Surg. J. H. WHITE, proceed to various ports in the West Indies, Mexico and Central America for the purpose of investigating sanitary conditions.

Sen. Surg. L. L. WILLIAMS, proceed to Palo Alto, Calif., to make inspection of an army hospital at that place.

Sen. Surg. J. O. COBB, proceed to Madison, Wis., to address vocational conference at the university.

Surg. J. S. BOGGESS, relieved at San Antonio, Texas, proceed to Alexandria, La., to take charge of cantonment hospital at Camp Beauregard.

Surg. JOHN M. HOLT, directed to confer with commanding officer relative to taking over army base hospital at Camp Logan.

Passed Asst. Surg. G. A. KEMPF, proceed to Perryville, Md., to inspect buildings to determine their suitability for utilization as hospitals.

Passed Asst. Surg. W. C. WITTE, relieved at Des Moines, Ia. Proceed to Washington, D. C., for duty in formation of reserve corps.

Acting Asst. Surg. R. E. GRAMLING, relieved at Leavenworth, Kan. Proceed to Salt Lake City, for duty in venereal disease control.

Acting Asst. Surg. WILLIAM M. KEEN, proceed to Harrisburg, Pa., for duty in influenza control.

Acting Asst. Surg. R. H. TRIMBLE, proceed to Harrisburg, Pa., for duty in influenza control.

Asst. San. Engr. SOL. PINCUS, proceed to Washington, D. C., for temporary duty in connection with studies of stream pollution.

Asst. San. Engr. C. P. RHYNUS, relieved at Nitro, W. Va., proceed to Washington, D. C., for duty in investigations of influenza and studies of stream pollution.

Asst. San. Engr. FRANK R. SHAW, relieved at Lake Charles, La. Proceed to Columbus, Ga., for duty in extracantonment sanitation.

Biochemist M. X. SULLIVAN, proceed to Washington, D. C., for temporary duty at the Hygienic Laboratory.

Asst. Educational Director JOHN A. VAN DIS, proceed to Detroit to attend meeeting of the International Convention of Boy Workers, March 17-19.

Regional Consultant LOUIS HOUGH, proceed to Columbus, Ohio, to assist in venereal disease control work.

Asst. Chemist E. J. CASSELMAN, proceed to Springfield, N. J., for studies in connection with the disposal of chemical wastes.

San. Insp. BEN G. MOULTON, proceed to Des Moines, Ia., proceed to Columbus, Ga., for duty in extracantonment sanitation.

Engr. Draftsman B. H. GRAFF, proceed to Perryville, Md., to inspect buildings to determine their suitability for utilization as hospitals.

Pharmacist CHARLES SLOUGH, relieved at the marine hospital at Mobile, Ala. Proceed to Augusta, Ga., for duty in hospital at Camp Hancock.

Pharmacist THOMAS C. ARMSTRONG, proceed to marine hospital at Chelsea, Mass., for examination to determine his fitness for promotion.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Reported Rabies.—H. F. Gray of the California State Board of Health has been making investigation regarding the report of rabies existing in Surprise Valley, Modoc County, and also at Susanville, and has sent to the state laboratory several heads of coyotes supposed to have died from rabies.

Violation of Medical Act.—Dr. T. Leung, Los Angeles, a Chinese herbalist, is said to have been arrested, March 5, charged with the violation of the state medical practice act.——Drs. George F. Frissell and Augusta Stone, Los Angeles, charged with using the mails to promote illegal surgical practices, have their cases set for trial, May 20 and May 21, respectively.

Charged with Fraud.—Indictments charging use of the United States mails in a scheme to defraud are said to have been returned by the federal grand jury, March 1, against R. Haruki, G. Suzuki, T. G. Nacayama, B. Nakaraha, T. H. Hayashi, Watanobi and Ochiai, Japanese physicians who were arrested several months ago on charges of falsifying their examination papers before the state board of health when applying for their certificates to practice medicine in the state.

Personal.—Slocomb R. Edwards, San Francisco, Lieut., M. C., U. S. Army, has been discharged from the service and has been appointed chief of the ear, nose and throat department of Leland Stanford Junior University School of Medicine, San Francisco.——Alanson Weeks, Major, M. C., U. S. Army, San Francisco, has been commissioned lieutenant-colonel and is in command of Base Hospital No. 30, American Expeditionary Forces, France.——J. Ross Moore, Major, M. C., U. S. Army, Los Angeles, has returned from France.

DISTRICT OF COLUMBIA

Personal.—Dr. John P. Frey, Washington, has been appointed assistant health officer of the district.

Public Health Service Hospital Turned Over to District.—Rupert Blue, Surg.-Gen., U. S. P. H. S., announces that the District Influenza Emergency Hospital, conducted by the Public Health Service, at 612 F Street N.W., Washington, has been turned over to the district authorities under recent congressional appropriations made for that purpose. The hospital has been in operation since Jan. 1, 1919, under the charge of Act. Asst. Surg. Ernest W. Scott. During this period 221 patients were attended, of whom 193 have recovered and twenty-eight died.

GEORGIA

Hospital Items.—The New Parkview Hospital at Gainesville was opened to receive patients, March 5. The hospital has accommodation for ten patients, and negotiations are under way to increase the accommodation to twenty-five.

Violation of Drug Act.—In the federal court at Athens, February 21, Dr. Jess W. Power, Athens, is said to have been

found guilty on one count of the indictment charging him with violation of the Harrison Narcotic Law in that he failed to make duplication of orders sent to drugstores for drugs. He was acquitted on the charge of the unlawful selling of drugs.

New Officers.—At the annual meeting of the Bartow County Medical Society held in Cartersville, March 5, Dr. Samuel M. Howell was elected president, Dr. William C. Griffin vice president, and Dr. Tanner Lowry secretary-treasurer, all of Cartersville.——Lowndes County Medical Society, at its annual meeting held in Valdosta, February 11, elected Dr. Dewitt W. Freeman president, Dr. Frank H. Thomas vice president, and Dr. Joyce F. Mixson secretary-treasurer, all of Valdosta.——At the annual meeting of Ware County Medical Society held in Waycross, Dr. George N. MacDonell was elected president, Dr. James H. Latimer vice president, and Dr. William F. Reavis, secretary-treasurer, all of Waycross.

Personal.—Ferdinand H. Herrmann, Capt., M. C., U. S. Army, Eastman, after a long service overseas as surgeon, Second Engineers, Second Division, has returned home bringing with him the Croix de Guerre with Palms.——Dr. Harold F. McDuffie, Atlanta, has been appointed a member of the state board of medical examiners to fill the unexpired term of the late Dr. Richard E. Hinman.——Giles Hathcock, Lula, and John L. Walker, Waycross, have been reappointed members of the state board of health for a term of six years.——Frank K. Boland, Major, M. C., U. S. Army, Atlanta, who went overseas with the Emory Hospital Unit, reached New York, February 26.——W. Nevin Adkins, Capt., M. C., U. S. Army, Atlanta, has returned home after six months' service in France.——Dr. Charles D. Cleghorn, Macon, retired as superintendent of the Macon Hospital, March 1.——Dr. Wiley S. Ansley, Decatur, has succeeded Dr. W. J. Houston, who resigned as physician of Dekalb County.——Dr. Henry W. Terrell, LaGrange, has been appointed local surgeon at LaGrange for the Atlanta and West Point Railway, and the Western Railway of Alabama.——The office of Dr. Eli F. Sapp, Albany, was destroyed by fire, February 28.——Dr. George M. Anderson, Ray City, has been elected health commissioner of Moultrie and Colquitt County, succeeding Dr. Lorick T. Patillo, Atlanta, resigned.

ILLINOIS

Personal.—Luther B. Highsmith, Lieut., M. C., U. S. Army, Flat Rock, returned with the officers of Base Hospital No. 22 from abroad and reached Camp Grant, March 12.——Dr. J. Allen Cotton, Peoria, was shot and seriously wounded by a sergeant of the Eighth Illinois Infantry, at Peoria, March 9.——Dr. William A. Trout, Atwater, was stricken with cerebral hemorrhage while making a professional call between Atwater and Carlinville.——Dr. Francis H. Fleege, Galena, who has been seriously ill with inflammatory rheumatism at St. Francis Hospital, is reported to be improving.

For Better Housing.—A bill has been introduced into the legislature to improve housing conditions in Illinois and ultimately to abolish the slums which exist in almost every large town. The bill is sponsored by Senator Kessinger, and its underlying principles have been endorsed by the governor, who called attention to the need of better housing conditions in the state in his January message to the legislature. The bill contains requirements as to height, size of rooms, lighting, sanitary facilities, etc., of tenement houses, and applies to all cities having a population of 10,000 or over. It vests enforcement in the state and local departments of health.

Illegal Practitioners Prosecuted.—It is reported that, notwithstanding the fact that the appellate court affirmed the opinion of the circuit court of Macon County imposing a heavy fine on James E. Kane of Decatur for violating the Illinois medical practice act by practicing as a chiropractor without a state license, Kane proceeded with his unlawful practices. The Department of Registration and Education collected further evidence against him, on which he was indicted and has again been adjudged guilty by the court. His attorney has entered a motion for a new trial, which will be disposed of in due course. Not satisfied with the opinion of the appellate court that he cannot practice as a chiropractor without a state license, Kane has appealed his case to the supreme court. It was taken on call at this term, and an opinion will probably be handed down at the next term. The appeal is based on the contention that the medical practice act is unconstitutional so far as it relates to chiropractors.——On complaint of one of the inspectors of the department, it is reported, Eugene Childress of East St. Louis was arrested for practicing medicine without a license. He was found guilty, but did not have enough money to pay the fine. The court sentenced him to six months of hard labor in the Belleville stone quarry.

Chicago

Lethargic Encephalitis.—After a consultation with physicians who have treated cases of this disease in Chicago, the commissioner of health issued a notice that the disease is now a reportable one.

Smallpox.—As the result of the discovery of three cases of smallpox in the Revere House, March 11, more than 100 of the guests and employees of the hotel were vaccinated by health department officials.

Illegal Practitioner Fined.—M. Krawczyk of 904 Milwaukee Avenue is said to have been arrested by the Department of Registration and Education of the State of Illinois for practicing medicine without a license and to have been fined $50 and costs.

Death Rumor Unfounded.—The report of the death of Dr. Samuel J. Walker which has appeared in local papers has not been confirmed. It is believed that the officer who died from typhus fever in Macedonia was a Lieutenant Walker, not a medical man.

Officers Returned from Abroad.—Leon C. Garcia, Lieut.-Col., U. S. Army; Herbert Walker, Major; Eugene Cary, Capt.; Irvin S. Koll, Capt.; Ralph H. Kuhns, Capt., and Lloyd H. Simmons, Lieut., M. C., U. S. Army, who have been on duty with the American Expeditionary Forces in France, have been released from military duty.

Violations of Narcotic Law.—Five Chinamen waived examination before United States Commissioner Louis F. Mason, March 10, and were held on charges of violating the Harrison Narcotic Law. The arrest followed a raid a week before in which $25,000 worth of opium was found and confiscated.——While the police were searching a laundry in West Madison Street, in which a fire with two fatalities had occurred, about $500 worth of opium and heroin was discovered.

Personal.—Dr. Alice Hamilton has been appointed assistant professor of industrial medicine in Harvard Medical School. She is the first woman to receive a faculty appointment at the Harvard Medical School. Dr. Hamilton graduated in medicine from the University of Michigan in 1893, was professor of pathology in the Northwestern University Woman's Medical School for three years, bacteriologist to the Memorial Hospital for Infectious Diseases, Chicago, for eight years, and has been engaged since 1910 in the investigation of industrial diseases for the federal Department of Labor.——Dr. Abraham L. Lash has been appointed surgeon in charge of the emergency hospital of the Chicago and Eastern Illinois Railway, at Oak Lawn.

INDIANA

Diphtheria in Fort Wayne.—Dr. Maurice R. Lohman, health commissioner of Fort Wayne, reported that there are nine cases of diphtheria in the city among seven families in widely separated districts.

License Revoked.—The state board of medical examiners, February 26, is said to have revoked the license of Dr. George F. Smith, Bicknell, because of alleged misrepresentation when he obtained his license to practice medicine in Indiana.

Smallpox.—Smallpox is reported from Elkhart, La Porte and South Bend.——In Huntingdon County, outside of the city of Huntingdon, there were fourteen cases of smallpox in January, and it is now estimated that there are twenty-five cases, all mild in type.

Asylum Hospital Burns.—The men's building of the Eastern Indiana State Hospital for the Insane, Richmond, was burned, March 5. One patient was burned to death and a second is not accounted for. Twenty-two bedridden patients were removed without injury. The property loss amounted to $25,000.

Personal.—Dr. Frederick A. Tucker, Lieut.-Col., M. C., U. S. Army, Noblesville, who had been in charge of Base Hospital No. 51, near Verdun, since June last, has returned from France.——Dr. Adam L. Schneider, Fort Wayne, has been appointed vice president, and Dr. Lester I. Ofner, treasurer of the Allen County Antituberculosis Society.——John B. Fattic, Lieut.-Col., M. C., U. S. Army, Anderson, has returned from overseas.——Dr. George H. Brodbeck, Roann, is reported to be seriously ill with paralysis.——Dr. John N. Hurty, secretary of the state board of health, has been made a fellow and awarded a life membership in the American Pharmaceutical Association.

KANSAS

Influenza at Wichita.—During the last week in February there were 250 cases of influenza and sixteen deaths in Wichita, the highest figures for any one week during the new year.

Handbook of Child Hygiene.—The division of child hygiene of the Kansas State Board of Health, under the directorship of Lydia Allen DeVilbiss, has issued a handbook of child hygiene, which, among many other topics, discusses the care of the children and the feebleminded, the wards of the state, quoting from reports of investigations into the child caring and maternity homes of the state which show a most unsatisfactory state of affairs. An analysis is given of Kansas child welfare legislation, and a plea is made for a thorough investigation and a complete codification of such legislation.

MARYLAND

Typhoid Fever.—The health department of Baltimore warns all residents of the new annex to the city, including Overlea, Mount Washington, and Roland Park, to adopt all possible precautions against development and spread of typhoid fever.

Personal.—Charles W. Maxson, Capt., M. C., U. S. Army, Steubenville, Ohio, has just been released after imprisonment for nearly eleven months in Germany. Captain Maxson was attached to the Fifth British Army and was captured because he refused to leave the wounded men he was caring for.——Dr. Clarence A. Neymann, Baltimore, has been appointed superintendent of the Cook County Psychopathic Hospital, succeeding Dr. Adam Szwajkart.——Dr. Norburu Ishida Baltimore, is reported to have been indicted by the grand jury of Baltimore County for the murder of Dr. George B. Wolff.——Col. William H. Welch, director of the School of Hygiene, Baltimore, established by the Rockefeller Foundation at the Johns Hopkins University, has sailed for France, where he will attend a health conference of the International Red Cross.——Dr. Alexander J. Gillis, Baltimore, formerly assistant superintendent at Sydenham Hospital, has been decorated with the Military Cross by the British government for bravery and distinguished service in the war. He was gassed while on a visit to the first-line trenches.——Dr. William Y. Hollingsworth, Bel Air, formerly connected with the surgery department at Sparrows Point, has also been decorated with the Military Cross, for bravery and distinguished service.

MASSACHUSETTS

Personal.—Dr. John Parr has been appointed and confirmed as city physician of Methuen to fill the unexpired term of the late Dr. Richard H. Lawler.

Boards of Health Meet.—At the regular quarterly meeting of the Massachusetts Board of Health, held at Pemberton recently, Dr. John S. Hitchcock, Northampton, acted as chairman in the absence of the president, Dr. Francis F. Mahoney, Westboro. A paper was ready by Fred Johnson, secretary of the Civilian Relief Committee of the Red Cross, on "Relief Work in Civilian Communities," and Dr. Charles E. Simpson, Lowell, city health officer, delivered an address on "Large Concentration Camps and Their Relations to Civilian Communities."

MONTANA

Personal.—Dr. Alonzo B. Eckerdt, Helena, has been appointed temporary health officer of Bozeman, succeeding Dr. Joseph Piedalue, resigned.——Herbert H. Judd, M. C., U. S. Army, Bozeman, has been occupied since his return from France in escorting wounded and sick soldiers from New York to hospitals in various parts of the United States.

Reduction in Typhoid.—The biennial report of the Montana State Board of Health shows that in 1917 there were 522 cases of typhoid fever reported in the state, while in 1918 there were only 179. The reduction is ascribed to the field investigation, which resulted in the improvement of the water supply. During this period 122 field investigations or sanitary surveys were made of public water supplies and 193 surveys of private water supplies. There were 833 laboratory investigations and 2,716 analyses of water.

Influenza.—At a meeting of the physicians of Helena, February 21, for the discussion of the influenza situation, it was disclosed that there were at that time 156 cases of the disease in the city, but it was said to be in light form, a characteristic of recent cases. There had been only an occasional death in the previous two months, and none in the previous ten days. It was noted that the disease had lately attacked a greater proportion of children, in whom the disease lasted on an average about five days as against about eight days for adults.

NEW YORK

Personal.—Dr. M. Louise Hurrell, Rochester, director of the American Women's Hospital at Luzanoy, France, and several members of the hospital staff have been decorated by the French government for their work in stamping out typhoid fever in certain cantons of the Seine, the Marne and the Aisne.

Poliomyelitis After-Care.—The records of the state health department show that during the year 1918, forty-two clinics for the after-care of poliomyelitis cases have been held in thirty-five municipalities in this state. The total number of cases examined was 654. Of this number 456 had attended one or more previous clinics. Of these 456 patients who had previously attended clinics and were under the care of field nurses, forty-nine were cured or practically normal, and 296 were improved. During 1918, 823 pieces of new apparatus were delievered to patients. Of the 1,700 patients that have been under state care, about 1,000 are wearing some form of apparatus ordered through the state department of health and applied by the nurses. There were about seventy new cases of poliomyelitis in the state during the year.

Civil Service Examinations.—The Civil Service Commission of the State of New York announces the following examinations to be held, April 26. Applicatons should be made before April 14, to the State Civil Service Commission. Albany:

Director of laboratory, department of health officer; port of New York, Rosebank, S. I., N. Y., salary, $3,500. This position requires a theoretical and practical knowledge of bacteriology as well as the knowledge of general pathology sufficient to conduct examinations to determine diagnosis in quarantinable, communicable, contagious and infectious diseases. Candidates will be rated on their education, experience, and personal qualification.

Laboratory apprentice, state department of health, salary, $720, men or women, preferred age from 18 to 30 years; requirements are a college education or its equivalent, and knowledge of bacteriology and practical laboratory experience is desirable.

Assistant physician, to provide eligibles for the position of assistant physicians in the state hospitals or other institutions of similar nature in various parts of the state. Salary in the state hospital, $1,200, increasing to $1,000, with maintenance, including quarters, board, laundry, etc. Applicants must be licensed medical practitioners of the state, men or women, and must have had six months' experience on the resident medical staff or as medical intern or clinical assistant in a state hospital or institution, or one year in the practice of medicine. Unmarried men preferred.

New York City

Drop in Influenza Cases.—The number of new cases of influenza reported to the board of health, February 14, was the lowest for any day this year, being ninety-five. The pneumonia cases reported continue to average between fifty and sixty daily.

Warns Against "Sleeping Sickness."—Dr. Royal S. Copeland, health commissioner, has issued a statement warning the public against a possible visitation of the disease known as "sleeping sickness." After describing the symptoms of the affection, he admonishes the public on the appearance of those symptoms immediately to summon a physician and to make a report to the board of health.

Hospital Asks Help.—The New York Hospital, for the first time since it was organized, 140 years ago, is making a public appeal for funds to meet a deficit of $100,000 incurred last year. In addition to its main institution in West Sixteenth Street it operates the Hudson Street Hospital and convalescent home and hospital at Bloomingdale. During the war it maintained a fully equipped hospital unit at Chateau Roux for eighteen months.

Hospital for Washington Heights.—At a mass meeting of Washington Heights physicians, held March 10, the Washington Heights Physician's League was organized. Its purpose is to secure a city hospital for this section, where urgent need for added facilities for sick has existed for a long time. The officers of the league are Dr. M. Joseph Mandelbaum, president; Dr. Henry G. MacAdam, vice president; Dr. Lesser B. Groeschel, secretary, and Dr. William F. Bender, treasurer.

Low Infant Death Rate.—Statistics recently issued by the health department show that in 1918 New York had the lowest death rate of babies of any of the ten largest cities

of the United States, and the second lowest ever recorded in the history of the city. The lowest rate was recorded in 1917, when there were 88.8 deaths per thousand living births. The 1918 rate was 91.7. The health department considers the showing as extremely gratifying in view of the war with its resultant economic conditions and the influenza epidemic, which deprived many children of proper care and nourishment.

OHIO

Bill to Provide Sanatorium Districts.—A bill, introduced by Senator Davis of Youngstown, and now in the hands of the public health committee of the upper house, is designed especially to relieve unsanitary conditions due to pollution in sparsely populated regions, by the establishment of joint sanitary districts similar to the organization of the conservancy district authorized after the great flood in 1913.

Smallpox.—A year ago there were reported to have been 100 cases of smallpox in Middleton; at present there are only five, and none of them serious.——The board of health of Elyria, at a special session, February 27, to consider the epidemic of smallpox in the city, authorized the health officer, Dr. George E. French, to quarantine the Gates and St. Agnes' schools or any other school or factory, should the welfare of the city require such action.——At Denison, fifteen cases of smallpox were reported to have developed in six hours, and public gatherings have been suspended.

New Health Bill.—Representative Hughes has introduced a bill into the legislature to replace the local health administrative system of the state. Under the provisions of the bill each city of more than 25,000 inhabitants and each county is organized into a health district under a whole-time health officer. This will provide, for all sections of the state, public health directors equal to those now furnished in the largest cities. The bill has the backing of the state federation of labor, the state grange, the Ohio Manufacturer's Association, and other organizations, the governor and health and old age insurance commissions, and the state department of health.

Personal.—Dr. Henry Graefe, Lieut., M. C., U. S. Army, Sandusky, has returned after more than a year of service with the American Expeditionary Forces in France.——Dr. William C. Snodgrass for twenty-three years a practitioner of Kenton, has moved to Los Angeles.——A smoker was given at Columbus, February 29, in honor of Dr. Louis Kahn, retiring health officer of the city.——Dr. W. Clyde Leeper, Akron, has returned after several months' service with the American Red Cross tuberculosis units in Italy.——Matthias A. Wagner, Lieut., M. C., U. S. Army, Lima, who has been for several months on duty with Evacuation Hospital No. 25 in Belgium, has returned home.

The Biggar Prize Essay.—Through the generosity of Dr. Hamilton F. Biggar, Sr., the Cleveland Medical Library Association has instituted a prize essay competition, and this year offers three cash prizes, the total value of which amounts to $600. The competitions are open to men of the medical profession in Cuyahoga County, senior students of Western Reserve University, Cleveland, and interns in hospitals in Cuyahoga County. Prizes will be awarded to the best essay on some clinical subject. Manuscripts should be typewritten and submitted to the secretary of the Cleveland Medical Library Association on or before November 1. These manuscripts should be marked with a fictitious name and accompanied by a sealed envelop bearing this name and enclosing the true name of the essayist.

The Menace of Tuberculosis.—The state department of health announces that there are 50,000 patients suffering from tuberculosis in active stages, each of whom is a potential source of infection to his fellows. The state also lacks facilities for guarding the public against danger from these cases and means for giving treatment for incipient cases. The present hospital equipment for combating the disease consists of the state sanatorium, at Mount Vernon, for incipient cases, three county, two municipal hospitals, six intercounty districts hospitals and several private institutions which care for a limited number of patients. Most of these hospitals are filled to capacity and have extensive waiting lists. The department is encouraging the enlargement of existing hospitals and establishment of new ones, the employment of more public health nurses, and the establishment of county dispensaries.

Cincinnati

Staff Reappointed.—The entire medical staff of the Cincinnati General Hospital has been reappointed by the board of directors of the institution.

Society Changes Name.—The Cincinnati Research Society, March 6, changed its name to the Daniel Drake Society, the new name being in honor of the founder of the Cincinnati Hospital and Ohio Medical College, who died in 1853.

Personal.—Dr. Fred W. Lamb has resigned as assistant professor of ophthalmology in the University of Cincinnati and as attending oculist on the staff of the Cincinnati General Hospital.——Dr. Henry E. Germann has been elected second vice president of the Cincinnati Antituberculosis Home.——Dr. James W. Miller has been appointed attending dermatologist to the Cincinnati General Hospital.

OKLAHOMA

Personal.—Dr. Oliver Bagby, Vinita, who has been seriously ill for a month in a hospital in Kansas City, is reported to be improving.

Physician Wins Verdict.—A jury in the district court of Beckham County awarded damages in the sum of $62,000 to Dr. G. Fowler Border, mayor of Mangum, in his suit for damages against five men who are said to have attempted to entrap Dr. Border into performing an illegal operation. Five of the men implicated in this conspiracy were tried and convicted in October, 1914, and sentenced to pay a fine of $500 and to be imprisoned for six months in jail. A new trial was immediately requested and refused, and notice of appeal was given.

PENNSYLVANIA

Philadelphia

Pennsylvania Unit Ready to Sail.—Members of the Pennsylvania Hospital unit have been sent to a port of embarkation in France and are awaiting transportation to America. There are about 400 members in the unit, including twenty-five doctors, 125 nurses and 250 enlisted men. During its service the unit was attached to the British army.

Pending Milk Bill Bad.—Dr. William Krusen of the department of health renewed the attack on the bill which is before the legislature to permit less butter fat in milk. This measure will allow milk dealers to reduce the quantity of fat from 3.25 to 3 per cent. and the milk solid from 12 per cent. to 11.5 per cent., such reduction to be accomplished by the addition of skim milk. The director urges the public to make a demonstration in the interest of the entire state, and especially of children, against such legislation.

Personal.—Joseph Sailer, Col., M. C., U. S. Army, and Benjamin F. Baer, Charles F. Nassau, and Albert P. Francine, Majors, M. C., U. S. Army, arrived in New York from France, February 26.——Drs. George F. Sowers, Charlotte S. Farrington, Benjamin Brown, Walter M. Miller and Frederick Van Gunten have been appointed additional school medical inspectors.——The following men have been awarded the military cross by the British government for bravery and distinguished service during the war: Thomas L. Doyle, A. Knox, Charles J. Worth and James B. Clinton, Lieutenants, M. C., U. S. Army.——John J. McKenna, Major, M. C., U. S. Army, after a year of service in the hospitals of France, has returned home.

CANADA

Toronto Institute for Blind Soldiers.—Dr. Charles R. Dickson, the roentgenologist, Toronto, himself blind, has been placed in charge of Pearson Hall, an institution recently opened in Toronto by Sir Arthur Pearson while in that city.

The Aesculapian Club, Toronto.—The following have been elected officers for 1919-1920: president, Dr. Herbert J. Hamilton; vice president, Dr. Nelson H. Beemer, Mimico, Ont.; secretary, Dr. Frederick C. Harrison, and treasurer, Dr. Edmund E. King.

Ontario Doctor Honored.—Dr. William Burt, Paris, Ont., a past president of the Ontario Medical Association, was presented with a substantial gift by friends in Paris, March 10, the occasion being his seventieth birthday. The presentation was made by the mayor of the town. Dr. Burt, who was ill at the time of this presentation, died, March 14.

Personal.—Major Benjamin L. Guyatt, Binbrooke, has been appointed officer commanding the Toronto military base hospital.——Capt. Roy H. Thomas, M. C., has returned to Toronto from overseas, and has been assigned to duty in Toronto military district.——Dr. William J. McCollum, Toronto, has returned from Florida much improved in health.——Lieut.-Col. Henry R. Casgrain, Windsor, Ont., has returned from overseas.

London University Seeks Aid for Medical Faculty.—The Ontario government received a deputation last week from the University of London, Ont. In the deputation were Dr. Edward A. Braithwaite, Edmonton, Alta., president of the university, and Dr. Hugh A. McCallum, London, Ont., dean of the medical department. They asked for $150,000 for extending the accommodation of the medical department. The citizens of London have already subscribed $100,000, and the site, costing about $22,000, has already been secured. The prime minister gave the deputation great encouragement, and stated that his government was already considering substantial aid both to London and Queen's University at Kingston.

GENERAL

Red Cross Nurse Fund.—The American Red Cross, March 9, announced an appropriation of $100,000 as a scholarship fund to induce graduate nurses released from the Army and Navy Nurse Corps to train for public health service.

Society for the Study of Epilepsy to Meet.—The next annual meeting of the National Association for the Study of Epilepsy will be held at the Craig Colony for Epileptics, Sonyea, N. Y., June 6-7, under the presidency of Dr. William T. Shanahan, Sonyea.

Bequests and Donations.—The following bequests and donations have recently been announced:

Grady Hospital, Atlanta, Ga., $500,000; Crippled Children's Home, Atlanta, $100,000; Atlanta Home for Incurables, $5,000, by the will of Albert D. Steiner, Atlanta.

Morton F. Plant Hospital, Clearwater, Fla., $1,000, the proceeds of a Washington's Birthday celebration at the Hotel Lake Belleview, Bellaire, Fla.

Episcopal Hospital, Philadelphia, a trust fund of $5,000 contingent on the death of the beneficiary, by the will of Ellen Craig.

After-War Activities of Red Cross.—The International Red Cross Committee at Geneva has called a convention of the Red Cross organizations of the world to meet at Geneva thirty days after the declaration of peace. This call was issued at the request of the Red Cross societies of the United States, France, Great Britain, Italy and Japan, whose representatives have constituted themselves a committee to formulate and propose an extended after-war program of activities in the interests of humanity.

Lethargic Encephalitis.—Reports of this disease are being made from an increasing number of places throughout the country. What was reported to be the first death from the disease occurred in New York, March 13. The patient was an adult 35 years of age. Forty cases were reported in the city of New York up to March 15. In Illinois, March 11, eighteen deaths had been reported to the state health department out of a total of twenty-seven cases, most of which were in Chicago. The disease had been reported, however, from Evanston, Springfield, Tallula, Alton and Marseilles. The first case reported in San Francisco, March 14, was that of a streetcar motorman. The disease has been made notifiable in a number of places.

Care of Insane Soldiers.—Under the regulations just announced from the Surgeon-General's Office, soldiers who are suffering from insanity will not be transferred to St. Elizabeth's Hospital, Washington, until it is demonstrated that they are incurable or require a long period of treatment. Insane subjects may be recommended for transfer to St. Elizabeth's Hospital after four months' observation and treatment in certain military hospitals designated for the reception of these cases. Exceptions are to be made in well defined cases of paresis, insane epileptics, or violent cases of insanity in which the prognosis is poor and the patient cannot be safely cared for in military hospitals. General Hospital No. 13, Dansville, N. Y., will receive only mild cases suitable for treatment in open wards. Many states have signified their willingness to receive, care for and maintain at state expense soldiers from their states who require institutional care, when the insanity existed prior to enlistment. No patients will be sent to any state institutions until assurance has been obtained from state authorities that the care of the patients is provided for.

Influenza and Pneumonia.—Reports throughout the United States indicate that influenza has markedly abated. Among the states especially reporting a decrease are Wisconsin, Indiana, Kentucky, Kansas and Illinois. At a few points, however, there have been slight decreases. The decrease is accompanied, of course, by a decrease in the number of pneumonia cases. Warnings are given by the local health authorities everywhere, however, not to relax precautions, and to remember that pneumonia sometimes follows an attack of influenza after a considerable interval. In Bozeman, Mont., March 7, there was a considerable rise in the number of influenza cases. On account of the city having no whole time health officer, a physician was brought in from Helena to take charge of the situation. The situation in the Army camps in the United States was reported, March 14, as satisfactory, there being a decided decline in the number of influenza and pneumonia cases, as noted in the report of the Surgeon-General. A considerable number of cases was reported among the troops in France. Illinois deaths from influenza and pneumonia during the epidemic amounted to about 100,000. As reported from North Carolina, the figures of the state board of health indicate that the precautions used against the spread of influenza had a tendency to decrease greatly the number of cases of whooping cough, measles, diphtheria and other contact diseases.

FOREIGN

Influenza.—Reports from Mexico during February were to the effect that 436,200 deaths had occurred from epidemic influenza during 1918. This was believed to be a conservative figure. The disease was still prevailing.

Typhus.—Press reports from Paris, March 10, were to the effect that there is a serious epidemic of typhus in Moscow, with many deaths. Disinfectants, medicines and soap are scarce. The shortage of fuel and scarcity of hot water make it difficult for the population to protect itself against the disease.

School of Herbalists at Parma.—The professor of materia medica at the University of Parma, Italy, has petitioned the government to found a school to train in practical knowledge of medicinal plants. One of the greatest difficulties in the cultivation of medicinal plants is the lack of knowledge concerning them and the inability to get practical expert advice on the recognition, growth and means of harvesting drug plants, those that grow naturally as well as those artificially cultivated. This it is hoped to remedy by the new training school which is to be in charge of Prof. A. Valenti, and connected with the school of pharmacy.

Paris Made Center for Red Cross Work in Europe.—In conformity with plans to carry out Red Cross postwar activities, the commission for Europe, established last November to consider and advise the war council in respect to all policies for the American Red Cross in European countries and to perform various other functions, has been abolished and the office of a commissioner for Europe has been created, and Mr. Robert E. Olds, one of the pioneers of the commission for France has been appointed commissioner with the assimilated rank of lieutenant-colonel, permanent headquarters to be maintained in Paris.

Allied Medical Aviation Congress.—The *Policlinico* relates that a representative gathering was held at Rome last month to discuss the medical and sanitary aspects of aviation. France was represented by Ambard, Guillain, Lemaire, and Garsaux; England by Henry Head, Dreyer, Flack and Birley; Belgium by Wonckin and Brohee; America by Boggs, Wilner and Rowntree, and Italy by Della Valle, Bressanin, Galeotti and Gradenigo, inspector of the psychophysiologic centers for aviation and the engineer Galanti. Others took part also, among them General Morris, director general of aeronautics. Resolutions dealing with physiologic and psychologic tests of candidates for licenses as pilots, the control of flights to high altitudes, and the use of oxygen by aviators were presented and will be sent to the peace conference with the request that they be taken into consideration when the international aerial code is drafted.

American Students at French Universities.—The *Paris Médical* of Feb. 8, 1919, states that arrangements have been made to distribute 5,000 American soldier students among the various departments of the University of Paris. The *Journal de Médecine de Bordeaux* also announces that 1,600 American soldier students are expected to arrive soon to enter the various courses of the University there, and in particular the courses of the Faculté de médecine. The mayor of Bordeaux has issued an appeal to the people of the city and suburbs to let him know of families which will take these young men into their homes and on what terms. The *Journal* adds "In informing our readers of this good news, we address to the American students, who have so valiantly accomplished their duty against the common foe, our best greeting and welcome. We are certain that they will find among our population and among their French university comrades the warmest reception."

Scientific Medicine and Pan-Americanism.—Dr. Paz Soldan of Lima, Peru, founder of the well known monthly, the *Reforma Medica*, in a recent number editorially comments on the importance of "solidarity between the professionals of the New World" as he expresses it. He continues, "In the North, the country of Wilson, after having spread over the red flood of Europe the rainbow of its unselfish abnegations, is turning its eyes toward the South and is commencing to take a serious interest in establishing closed and more sincere relations with its other sisters of America. The appearance of a great Spanish journal, designed originally in English, as will be the one to be published by the American Medical Association is a symptom revealing the profound spiritual change that characterizes the present hour. In Hispano-America the connection and personal relations between the physicians, the thinkers and the statesmen are growing every day deeper and more sincere. . . . To bind men and to bind countries together, that is the program for our future activity, that is the star which will guide our uncertain steps. We know well that in this task we will not be alone, but that hundreds of other medical journalists will march along with us, won over, like us, to the new American ideal, and all working together to realize it in a short time. The new year on which we have just entered, year of peace and life, ought to be as well the year of America, of Pan-America, united and strong by its spirit, by its intellectual originality, by its community of purpose, and by the inexorable mandate of its common destiny."

The Recent Decline of Plague in India.—India has been suffering intermittently for more than twenty years from plague, which has caused the death of some 10,000,000 people. There are now signs that the periodic epidemics are becoming less virulent, and for a curious reason: Experimental investigation has shown that the newer generations of rats are developing comparative immunity from plague infection. It is thought that in time the rats in long-infected areas may become completely plague proof. This eventual outcome has been predicted by Dr. C. J. Martin, F.R.S., director of the Lister Institute, who organized the researches which demonstrated that the infection is conveyed to man by rat fleas. Perhaps in some similar manner plague disappeared in the British Isles. British rats may gradually have become immune to plague infection. However, it must be remembered that plague remained persistently endemic through the centuries in certain quarters of the world, such as the highlands of Yunnan in China and of Asir in Western Arabia, and India has always been regarded as a reservoir.

Conflict Between Profession and Government in Tasmania.—The Tasmanian Branch of the British Medical Association has on several occasions protested against the abuse of the hospitals, and in February, 1917, passed a resolution that well-to-do patients should not be admitted into state-aided hospitals. The association decided that unless the assurance was given by the premier, that such abuse shall cease, to instruct all its members to resign forthwith from the honorary staffs of such hospitals. As the assurance was not given, the honorary medical officers at the hospitals resigned. A conference was held between the premier and delegates of the branch, but proved futile. To fill the vacancies in the Hobart hospital, five physicians were appointed at salaries in defiance of resolutions of the Tasmanian Branch of the British Medical Association, as well as of the Australasian medical congress. Much bitter feeling was aroused by politicians and the press, the attempt being made to show that the medical profession had jeopardized the welfare of the sick poor. In October, 1917, the chief secretary introduced a new hospitals bill in accordance with the policy of the government that there should be no differentiation between persons seeking medical relief in a state-aided hospital. The bill passed through three stages in the lower house and was then sent to the legislative council. All endeavors to come to terms with the profession failed, and in June, 1918, the premier announced his intention to amend the medical act with the object of enlarging the field from which the medical profession in Tasmania might be recruited. Attempts were made to come to terms, but retention of the five physicians who had defied the resolutions of the profession proved insuperable obstacles. A conference was proposed between the government and the Tasmanian Branch of the British Medical Association, but the latter insisted on the removal of the five physicians as a preliminary step. This was refused and so the impasse continues.

MEXICO LETTER

MEXICO CITY, March 9, 1919.

Ratification of Credits

The Universidad Nacional has decreed that persons who have taken courses in other state institutions or in other lands must have their credits ratified before they can follow the courses at the university. When students are sent out of the country on a traveling scholarship by their own university, the credits obtained will be accepted as valid, as also those of persons who have degrees from foreign professional schools if they have rendered services to the government during the last six years. They are entitled to practice their profession if they will merely have their respective diplomas revalidated, ratified, provided that this is done before December, 1920, and that they can present satisfactory documents to prove the services rendered.

Spanish Scholarships for American Students

According to cable despatches, the professor of sociology at the University of Madrid has petitioned the Spanish government to open the universities of Spain to the youth of Latin America, allowing them access to the various faculties, the archives and especially those of the Indies which are preserved at Seville. According to the plan proposed, several scholarships would be founded, providing a minimal allowance of 3,000 pesetas annually, which would be conferred on suitable pupils in the schools established in Latin America.

English in the Daily Papers

There is no paper published here in English, but two of the dailies to remedy this defect have now introduced a section entitled "Anglo-American Notes." The section in the *Universal* is edited by A. Grandville Patton.

Personal

Dr. T. G. Perrin has been elected to membership in the scientific society, the "Antonio Alzate."——Dr. R. Silva has returned from a trip to the United States.——Dr. N. R. Amerena, of the medical school at San Luis Potosi, has recently been appointed professor of medical pathology at the Escuela Nacional de Medicina in this city.

LONDON LETTER

LONDON, Feb. 26, 1919.

The Influenza Epidemic

The third wave of the influenza epidemic continues. In the interval since the second wave the smallest number of deaths from influenza in London in any week was thirty-three in the week ending January 25. In the two following weeks the number rose from fifty-eight to 100 and then to 273, a number which has not been exceeded since December 14. The disease is prevalent all over the country. In Durham all the elementary schools have been closed for three weeks, and whole families are stricken. In Leeds all the elementary schools and the Sunday schools have been closed. In Edinburgh 316 deaths occurred, being the rate of 48.6 per thousand, the highest figure ever recorded, although the week before last an identical number was recorded. This high mortality was largely due to influenza. As preventive measures, gargling the throat and washing the nostrils with a solution of common salt and potassium permanganate is recommended by the health authorities. Masks have been discussed in the press, but so far have not been adopted. Sir Arthur Newsholme, chief medical officer of the Local Government Board, advises them for nurses in cases of pneumonia complicating influenza. In New South Wales their use has been made compulsory, and church services in Melbourne are allowed only on condition that every worshiper wear a mask.

Seven Diseases Made Notifiable

The return home from the various seats of war of large numbers of soldiers suffering from infectious diseases is a source of danger to the civilian population that has exercised the health authorities. An order has therefore been published making malaria, dysentery, trench fever, acute primary pneumonia, enteric fever, relapsing fever and typhus fever notifiable as epidemic and infectious diseases. It is explained that the expression "dysentery" includes amebic and bacillary dysentery, and the expression "enteric fever" includes typhoid and paratyphoid fevers. Every physician, as soon as he becomes aware that a person on whom he is in attendance is suffering from any of the complaints in question, must send to the health officer for the district a

notification of the case, unless he knows that it has been reported from another source within the preceding six months. The health officer will immediately take steps to investigate the source of infection and to prevent it spreading. In the case of trench fever or of malaria, in which he has reason to believe that infection was contracted in the United Kingdom, he must forward the name and address of the patient to the Local Government Board, and the same procedure must be adopted if there is an outbreak of dysentery in his district. In every case of malaria, trench fever or dysentery, the health officer will take the necessary steps to secure treatment of the case in a suitable hospital unless he is satisfied that treatment elsewhere will be carried out with all precautions necessary to prevent the spread of the disease. In every case of malaria the health officer will see that if necessary the patient is supplied with efficient mosquito netting, and receives necessary quinin treatment and proper advice as to the continuation of the treatment in order to prevent relapses. If two or more cases occur in a district, a physician may be appointed to make systematic visits to the houses to examine persons who may be infected. In any case, when dysentery occurs the health officer may require that the person shall discontinue any occupation connected with the preparation or handling of food or drink for human consumption. Children in charge of any person specified must not be sent to school. In cases of trench fever the health officer may require that steps immediately be taken to obtain the complete destruction of the lice on the person and clothing of every occupant of the building, and the temporary segregation of other inmates of the building, or persons recently in contact with the patient, until their persons and clothing have been completely freed from lice.

Birth Rate and Empire

The National Birth Rate Commission is investigating the problem of the declining birth rate as it affects the empire, the contemporary movements of population in the dominions, and the proportional distribution of the sexes throughout the empire. It has recommended a complete census shortly after the war and the establishment of a permanent anthropometric department in the ministry of health, a complete constitution for which ministry the national council will issue almost immediately which will show how it may be made an instrument of reconstruction. J. M. Robertson, M. P., submitted to the commission a supplementary statement on the Australian birth rate. The Australian rate, which in 1890 stood at 35, having fluctuated only slightly from 35.3 in 1881, began steadily to decline till, in 1896, it had gone below the British rate. The latter, however, went on steadily declining till 1914, whereas the Australian rate slightly recovered in 1904 and remained steady till 1910, when it began rising, till in 1912 it stood at 28.7; a slight fall then again appeared, till in 1914 it stood at 28.1, while the English was 24. The whole Australian figures, while marked by a slow recovery from the lowest in 1903 (25.3), show no further tendency to rise since 1912, and still mark Australia as a country with an obviously restricted birth rate. The commission is to devote a number of sittings to the problems of the food supply of this country and the optimum population that it can healthily maintain.

The Clinical Meeting of the British Medical Association

The special meeting of the British Medical Association in London was announced in a previous letter. The meeting will be held from April 8 to 11 at the Imperial College of Science, South Kensington. Compared with the ordinary meetings, it will be much curtailed. There will be only three sections, and most of the subjects will be connected with the war. Papers and discussions will occupy from 10 a. m. to 1 p. m., and demonstrations will be given at the hospitals in the afternoons. In the Section of Medicine, Lieut.-Col. F. W. Mott will open a discussion on war neuroses, April 9. April 10 (in conjunction with the Sections of Preventive Medicine and Pathology) influenza will be discussed. The recent epidemics in England and France will be compared. April 11, under the chairmanship of Sir William Osler, venereal disease will be introduced by Brevet-Col. L. W. Harrison. Prognosis in cardiovascular affections will be introduced by Dr. Thomas Lewis under the chairmanship of Sir James Mackenzie. Demonstrations will be given as follows: neurologic cases, National Hospital for Paralyzed and Epileptic, Queen Square; disease of the chest, Brompton Hospital; mine gas poisoning, Lieut.-Col. D. Dale Logan; newer methods in cardiodiagnosis, National Heart Hospital; air force tests, cases and specimens (cardiac), Dr. Thomas Lewis, University College Hospital; venereal diseases, Lieut.-Col. L. W. Harrison, Military Hospital, Rochester Row; war neuroses, Lieut.-Col. F. W. Mott, Maudsley Clearing Hospital, and diseases of children, Hospital for Sick Children, Great Ormond Street.

In the Section of Surgery the subjects will be: gunshot wounds of the chest, introduced by Col. T. R. Elliot and Col. G. E. Gask; wound shock, introduced by Prof. W. M. Bayliss and Dr. H. H. Dale, and reconstructive surgery, introduced by Major R. C. Elmslie. Demonstrations will be given as follows: orthopedic methods, at the Military (Orthopedic) Hospital, Shepherd's Bush; specimens illustrating wounds of arteries, at the Royal College of Surgeons; roentgen ray and facial injuries, at Sidcup; injuries of the eye, and specimens illustrating fractures of the skull, at the Royal College of Surgeons, and specimens illustrating gunshot wounds of the abdomen, at the Royal College of Surgeons.

In the Section of Preventive Medicine and Pathology, the dysenteries will be introduced by Lieut.-Col. L. Dudgeon. Malaria will also be discussed.

The remarkable war collection at the Royal College of Surgeons, which was described in a previous letter, will be on view daily, and three demonstrations have been provided: Sir George Makins, injuries of arteries; Prof. Arthur Keith, fractures of the skull, and C. S. Wallace, abdominal injuries.

Reform of the Indian Medical Service

In response to a deputation from the British Medical Association, Right Hon. E. S. Montagu, secretary of state for India, has announced certain reforms: The pay is to be increased by 33⅓ per cent. Opportunities will be given to medical officers to engage in research, and leave will be granted for the purpose of study. Facilities will be given for private practice, but this must be under the control of the government.

Physiology and the Food Problem

In a lecture at King's College, Prof. W. D. Halliburton, F.R.S., described some interesting researches made during the war by the food war committee of the Royal Society. About the middle of 1917, the fat shortage became serious, so much fat was used in the manufacture of explosives. The question arose as to whether the fatty acids remaining after the extraction of glycerin from fat could be used for the purposes for which fats had been previously used. The first experiments were made on rats. These animals are comparatively short-lived, and if fed on a particular diet for a few weeks or months it is equivalent to feeding a long-lived animal, such as a man, over a longer period. On a diet of fatty acids the rats thrived and multiplied, and it remained to try the effect of the food on man. Prof. Noël Paton obtained voluntary assistants for the test, and the experiment proved a complete success. There is as yet no need for a diet of this kind, but in case of emergency a source of a supply for fat is here indicated. A curious fact came out in these experiments: it was found that if an animal was fed on fatty acids, they passed into the blood stream as fat, the animal making its own glycerin, possibly sugar. Another investigation was made on lanolin. The government had some thousands of tons in stock, and information was asked for as to whether this could be used for food. It has an entirely different chemical constitution from fat. It is not poisonous, but it proved to be quite useless for food on account of its nondigestibility.

National Health

Sir Arthur Newsholme, medical officer of the Local Government Board, who is about to retire, gives in his last report a general survey of the improvement in the national health in recent years. A comparison of the death rate at different ages in the period 1911-1915 with that of 1871-1880 shows that at all ages up to 45 there has been a reduction in the death rate from all causes of from 42 to 50 per cent. in England and Wales. An increase in the average expectation of human life of ten years for males and eleven for females is also a notable fact of the progress that has been made during this period. Of the annual saving of 234,955 lives, represented in the returns showing improvement in health, 64 per cent. is ascribable to reduced mortality from acute and chronic infectious diseases, including the ordinary infectious diseases, as tuberculosis and respiratory affections. Perhaps the best index of combined social and sanitary progress is the reduced death rate in young children, which shows a substantial national gain in child life. The almost complete disappearance of typhus fever, and the gradual vanishing of typhoid, can fairly be regarded as due to

public health administration during the past forty years. In Sir Arthur Newsholme's opinion the needs of the future might be considered as coming chiefly under the heads of: (1) more extensive research into the causation of disease; (2) extensions of communal action for prevention and treatment; (3) more complete medical training for the work, and (4) the simplification and strengthening of administrative machinery.

PARIS LETTER

PARIS, Feb. 20, 1919.

Electric Treatment of Muscular Atrophy

War wounds and conditions entailed by them are the cause of so many instances of muscular insufficiency that it may be said that hardly a single wounded soldier has escaped without having some of his muscles or muscle groups affected unfavorably. At the last meeting of the Académie des sciences, Dr. J. Bergonié, professor of biologic physics and medical electricity in the Bordeaux medical faculty, stated that industrial or, still better, agricultural work, done day in and day out, would be efficacious, but that this is not always possible, for personal reasons, or because of wounds sustained, season, etc. He advocates for the purpose a method of intense rhythmic faradization which would help to overcome these difficulties. He aims to produce a very pure induction wave by means of a *trembleur* or a special machine, with frequency just sufficient to tetanize the muscle, and by makng use of very large electrodes, an energetic rhythmic functioning of the muscle is thus realized, without provoking any sensation of nervous or muscular fatigue. This passive electrical muscle exercise brings about, without voluntary participation of the will of the patient, an intense assimilation of nutrition and more rapid muscular development than would be produced by voluntary exercise, so much so that the power of motion is quickly restored and the general condition of the patient is improved rapidly, favoring an early recovery.

Provisioning Paris

In order to combat the high cost of living in Paris, which is increasing day by day, M. Vilgrain, undersecretary of state for the food commission, has conceived a project for supplying foods and prime necessities of life for the city of Paris. Barracks will be constructed in all the arrondissements of Paris, at least four in the less populated districts and six or eight in the others. In these barracks one may purchase rice, dry vegetables, concentrated milk, ham, salt meats, frozen meats, pies and edible fats, etc., at a price very much lower than that asked by the retail merchants. These barracks, which will be practically municipal markets, will be supplied abundantly with food by the food commission from the large stocks purchased to provision the army and which are becoming every day more easily obtainable for civilian use because of the demobilization of the army. These municipal stores will not have an exclusive monopoly on the sale of foods furnished by the food commissioner. Merchants, generally, can obtain them if they will agree to sell them at a price fixed by the commission. It is probable that 120 of these barracks will be opened soon. As the merchandise will be sold by eighty municipal butcher shops and 300 controlled groceries, the population of Paris will be able to buy food in about 500 stores at a rigorously controlled price, one which will be lowered every fifteen days. On the other hand, M. Victor Boret, minister of agriculture and food commissioner, has promised to deliver to the city of Paris, from now on, 200 additional tons of refrigerated meats per day. This meat will be placed on sale by the controlled meat markets. This additional supply represents two fifths of the total meat consumption of the people of Paris.

Importance of Proper Selection and Distribution of Cases for War Surgery

Dr. Quénu, professor of clinical surgery in the Paris Medical Faculty, recently directed the attention of the Société de chirurgie de Paris to the fact that in war surgery good final results depend in large part on the proper sorting and distribution of cases. He regards the methods employed in the III-e Armée as being ideal in that respect. The detached division ambulances, formerly charged with the selection of the cases as the wounded arrived from the first aid posts, finally turned over this part of their work to a special service which has a sufficient personnel and surgical material. This body exercises a triple function: (1) a selective rôle; (2) operating and hospitalizing; (3) evacuation. The moderately and the severely wounded who can be transported are sent to the appropriate center in the rear or on the side lines after the necessary provisional fracture apparatus has been applied. The nontransportable wounded are operated on, such as cases of abdominal wounds, hemorrhagic cases, certain cases of thorax wounds, and cases of extensive wounds of the extremities, if the condition of the patient permits of intervention. Patients with tourniquets are held. The slightly wounded are sorted out and are sent to special points of embarkation. The matter is still further complicated by the large number of the gassed and of those having sustained a joint resection or an amputation. These patients must be sifted out and sent to special centers.

The services of this *triage* group are not necessarily rendered at only one point. The primary selection of the slightly wounded from the others is always of great importance, and it is important to do this work as soon as possible, because these slightly wounded and slightly crippled encumber the means of transportation, to the detriment of the more severely wounded. It was even arranged to have special points of embarkation for the resection cases. This leaves at the *centre de triage* only the nontransportable, who are retained, while all the others are evacuated. Here again, a distinction has to be made between the severely wounded who are transportable only to the neighboring surgical centers, and the less severely wounded, who, because of the nature or site of the wound, are not only transportable but can be sent to hospitals farther along the lines of communication, provided always, that as they have not been operated on at the front, the operation can be done inside of twenty, twenty-four or twenty-six hours after the wound. There are, thus, three zones of operations: (1) the first or primary zone at the *centre de triage*, the sorting center of the corps d'armée; (2) the secondary zone comprising the surgical centers in the vicinity of the former; (3) the territorial zone (zone des étapes or zone de l'intérieur) the distance of which should be measured by hours of transport rather than by kilometers.

By whom should the *triage* be made? Without doubt by the consulting surgeon of the corps d'armée, who need not be a good operator. He must, however, be a good organizer, energetic, prompt in decision and capable of meeting any emergency which may arise so far as his corps d'armée is concerned, being able to adapt his work to an advance or withdrawal. As for the technical *liaison* or cooperation between the various corps d'armée, this will naturally fall also on the shoulders of the surgical consultant who should possess all the qualities of mind mentioned above.

Sequels of Gassing in Warfare

At the last meeting of the Académie de médecine, Dr. Ch. Achard, professor of pathology and general threapeutics in the Paris medical faculty, spoke of the sequels of gas poisoning. He based his conclusions on the examination of 3,525 cases seen in the course of two years, 84 per cent. of which were caused by gas of the mustard gas type, and 16 per cent. by suffocating gas. It is remarkable that in the latter cases the most serious sequels are seen. The most important of these late symptoms (they may appear as late as forty months after the gassing) are manifested by the lungs. They are emphysema and chronic bronchitis mainly, but a condition simulating tuberculosis (slight hemoptysis, auscultatory signs at the apexes, fever, loss of weight) or without tubercle bacilli in the sputum. Nevertheless, tuberculosis may supervene as a secondary complication, but much less frequently than is believed to be the case, and only as a lighting up of an old focus. In addition to these pulmonary lesions, there may be lesions of the larynx, eyes, skin, stomach, heart and, exceptionally, of the liver and kidneys. Nervous disorders may develop or disturbances of the general health of the gassed person.

Marriages

JOHN Z. MRAZ, Capt., M. C., U. S. Army, Oklahoma City, at present commanding a field hospital in France, to Miss Elizabeth Isabel May, Army Nurse Corps, at Fort Worth, Texas, in June, 1918.

MORRIS ABEL SLOCUM, Lieut., M. C., U. S. Army, Pittsburgh, to Mlle. Clemantine Marie Louise Mistiaen of Antwerp, Belgium, in London, England, March 1.

FREDERICK GEORGE SPEIDEL, P. A. Surg., Lieut., U. S. Navy, Louisville, Ky., to Miss Teresa Anne Henry of Washington, D. C., February 26.

Deaths

Richard Brooke Maury, Memphis, Tenn.; University of Virginia, Charlottesville, 1857; Bellevue Hospital Medical College, 1858; aged 85; a member of the Tennessee State Medical Association; for four years a surgeon in the Confederate Service during the Civil War; professor of theory and practice of medicine in Memphis Medical College from 1869 to 1872, and of gynecology in the Memphis Hospital Medical College from 1895 to 1897; president of the American Gynecological Society in 1906; and once president of the board of education of Memphis; president of the City Club of Memphis from 1907 to 1911; died at his home, March 17.

Robert Boyden Underwood ✠ **Capt., M. C., U. S. Army,** Memphis, Tenn.; University of Nebraska, Omaha, 1904; aged 38; instructor in the University of Tennessee; district surgeon of the Illinois Central, and Yazoo and Mississippi Valley railroads; formerly captain in the medical department of the National Guard of Tennessee; commanding officer of the 118th Field Hospital, 105th Sanitary Train, 13th Division, and also in charge of the advanced dressing station; died in the American Red Cross Hospital, Rouen, France, November 12, from pneumonia.

Edgar L. Griffin, Atlanta, Ga.; Southern Medical College, Atlanta, Ga., 1894; aged 47; a member of the Medical Association of Georgia; formerly professor of abdominal and gynecological surgery in the Southern College of Medicine and Surgery, Atlanta; a veteran of the Spanish-American War, in which he served as medical officer; for many years a member of the visiting staff of the Grady Hospital; who was injured in a collision between automobiles, March 2; died a few hours later at the Grady Hospital.

Haroutyoun Tiryakian, New York City; University of Paris, 1874; aged 74; at one time president of the Armenian Political Chamber at Constantinople, and a leader in the Armenian nationalization movement; who made his escape to Persia in 1896, and for nine years was physician to the Shah; a resident of New York for twelve years; died in the Manhattan Square Sanitarium, March 2, after an operation.

Charles Gilchrist Briggs, Schenectady, N. Y.; Albany (N. Y.) Medical College, 1889; aged 53; a member of the Medical Society of the State of New York; who joined the American Volunteer Ambulance Corps in June, 1916, serving first with the British and then with the French army, and who was awarded the Croix de Guerre for removing French wounded under fire at Verdun; died at his home, March 2.

Walter Henry Fox ✠ **Capt., M. C., U. S. Army,** Waucoma, Iowa; State University of Iowa, Iowa City, 1905; aged 36; assistant professor of anatomy in his alma mater; who was on duty with Base Hospital No. 85 in Paris until January 18, when he was transferred to the Balkan Commission and sent to Belgrade, Serbia; died in Serbia, February 22, from septic pneumonia.

Willis Benjamin Harrison ✠ **Lieut., M. C., U. S. Army,** Buffalo; University of Buffalo, N. Y., 1916; aged 27; who entered the Army on Oct. 23, 1918, and was ordered to Camp Greenleaf, Ga.; was honorably discharged, December 29, and was recommissioned in the Medical Reserve Corps on the same date; died at Silver Creek, N. Y., February 4, from pneumonia.

Harry Hibberd Weist ✠ New York City; Bellevue Hospital Medical College, 1891; aged 50; formerly a member of the staff of the Reed Memorial Hospital and St. Stephen's Hospital, Richmond, and surgeon of the Grand Rapids and Indiana Railroad; died at his home, March 6, as the result of a bullet wound, believed to have been self-inflicted.

Robert B. Jessup, Vincennes, Ind.; Bellevue Hospital Medical College, 1883; aged 62; who had been under treatment for several months in Cincinnati on account of disease of the eye; died in his room in the Hotel Emery, Cincinnati, March 4, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent.

Solomon C. Page, Visalia, Calif.; College of Physicians and Surgeons, St. Joseph, Mo., 1880; University of Louisville, Ky., 1887; aged 73; for many years a practitioner of Atchison County, Kan.; but since 1895 a resident of California; died at his home, February 26, from pleuropneumonia.

Herman Bennett, New Lexington, Ohio; Eclectic Medical Institute, Cincinnati, 1896; aged 46; a member of the Ohio State Medical Association; while driving in his automobile over a grade crossing of the Toledo and Ohio Central Railroad in New Lexington, March 3, was struck by a train and instantly killed.

Andrew S. Dickey ✠ Tipton, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1881; aged 68; local surgeon to the Lake Erie and Western Railroad and to the Northern Indiana Traction Company; health officer of Tipton County; died at his home, March 2, from angina pectoris.

Charles Thomas Mason, Clear Spring, Md.; Jefferson Medical College, 1896; aged 53; died at his home, March 5, from the effects of a gunshot wound of the head, self-inflicted, it is believed, with suicidal intent, while irresponsible on account of a nervous breakdown.

Max Staller ✠ Philadelphia; University of Illinois, Chicago, 1895; aged 51; one of the founders and first president of Mount Sinai Hospital, Philadelphia; medical director of the Jewish Consumptive Institute; died at his home, March 2, from carcinoma of the throat.

John G. Hersh ✠ East Greenville, Pa.; University of Pennsylvania, Philadelphia, 1876; aged 66; a member of the state house of representatives in 1899; a specialist in diseases of the eye, ear, nose and throat; died at his home, February 23, from bronchial pneumonia.

Francis Rand Blanchard ✠ Eaton Rapids, Mich.; University of Michigan, Ann Arbor, 1891; aged 55; chairman of the local chapter of the American Red Cross; was killed, March 4, by a fall down the elevator shaft of the Harriett Chapman Hospital, Eaton Rapids.

Henry Arthur Greiner, Fremont, Wis.; Detroit College of Medicine and Surgery, 1895; aged 45; formerly a member of the State Medical Society of Wisconsin; died in the Theda Clark Hospital, Neenah, Wis., March 5, from tuberculosis of the intestines.

Claude Albert White, Memphis, Tenn.; Atlanta (Ga.) Medical College, 1880; aged 62; at one time a member of the Medical Association of Georgia; died at St. Joseph's Hospital, Memphis, February 20, from septicemia, due to an infected toe.

Darrell Jefferson Herron, Madrid, Ala.; Atlanta (Ga.) Medical College, 1884; aged 72; at one time a member of the Medical Association of the State of Alabama; died at the home of his daughter in Columbus, Ga., February 24, from pneumonia.

Hugh Frank Taylor ✠ **Capt., M. C., U. S. Army,** Mintonville, Ky.; Kentucky School of Medicine, Louisville, 1893; aged 48; on duty at Camp Mills, N. Y.; died in the base hospital at that camp, December 18, from chronic diffuse nephritis.

Frank Wells ✠ Boston; Harvard Medical School, 1868; aged 76; professor of histology in the College of Physicians and Surgeons, Boston; medical director of the John Hancock Mutual Life Insurance Company; died at his home, March 4.

Samuel Harold Boyd ✠ **Lieut., M. C., U. S. Army,** Philadelphia; University of Pennsylvania, Philadelphia, 1913; aged 30; on duty at Camp Merritt, N. J.; died in the base hospital, Camp Merritt, December 24, from valvular heart disease.

Sylvester J. Hill, Fargo, N. D.; Homeopathic Hospital College, Cleveland, 1872; aged 72; a veteran of the Civil War, and department commander of the North Dakota Grand Army of the Republic in 1907; died at his home, March 1.

Bromwell Artemus Andrew, Jersey City, N. J.; Bellevue Hospital Medical College, 1869; aged 71; for several years surgeon of the Jersey City Police Department; died suddenly in his office, February 27, from heart disease.

Frank Underwood, Poplar, Mont.; University of Illinois, Chicago, 1905; aged 40; also a druggist; died at his home, February 27, from valvular heart disease.

Benjamin F. Carpenter, Belton, S. C.; University of Maryland, Baltimore, 1899; aged 40; died at his home, February 15, from pneumonia following influenza.

Henry Wilson, Newburgh, N. Y.; L.R.C.P. (Lond.) and L.R.C.S. (Eng.), 1879; aged 54; city manager of Newburgh; died at his home, February 26.

William Gibson Lumley, Detroit; University of the Victoria College, Coburg, Ont., 1870; aged 74; died at his home, February 24.

Richard Henry Sims, Powellton, Va.; Jefferson Medical College, 1867; aged 76; died at his home, February 21.

James Valentine Kern, New York City; Cornell University, New York City, 1902; died at his home, February 23.

✠ Indicates "Fellow" of the American Medical Association.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

MISBRANDED NOSTRUMS

Chase's "Blood and Nerve Tablets," "Liver Tablets," and "Kidney Tablets."—Shipped in August, 1916, by K. E. Hafer,[1] trading as the Dr. Chase Co., Philadelphia. Analysis showed the "Blood and Nerve Tablets" to contain essentially, metallic iron, ferrous sulphate, sodium carbonate (washing soda), zinc phosphid, capsicum (red pepper), aloes, strychnin, and possibly gentian and podophyllum, with a trace of arsenic. The "Liver Tablets" were more than half sugar the active portion consisting of aloes, capsicum, licorice, ginger, and what appeared to be nux vomica. The "Kidney Tablets" were about 40 per cent. sugar, the active ingredients appearing to be methylene blue, licorice, and vegetable matter. The "Blood and Nerve Tablets" were falsely and fraudulently represented as a cure for weakness, nervous prostration, sexual exhaustion, anemia, etc. The "Liver Tablets" were falsely and fraudulently represented as a cure for paralysis of the bowels, diseases of the liver, dyspepsia, malaria, etc. The "Kidney Tablets" were falsely and fraudulently represented as a cure for paralysis of the bladder, general debility, rheumatism, Bright's disease in its early stages, dropsy, etc. Fine, $250.—[*Notice of Judgment No. 6170.*]

XXX Tonic Pills.—Shipped about January, 1917, by the XXX Pill Co., Lewiston, Me. Analysis showed the pills to contain a small amount of iron, a trace of quinin, strychnin, and resins, with emodin, aloin, gentian, anise oil, and vegetable extractives. Falsely and fraudulently represented as an effective treatment for diseases of women, sciatica, locomotor ataxia, St. Vitus' dance, paralysis, diphtheria, impotence, spermatorrhea, whooping cough, etc. Fine, $50.—[*Notice of Judgment No. 6189.*]

Egiuterro, Uicure, Sweet Rest for Children, Beaver Drops Comp., Blood Kleen, Heart and Nerve Regulator, Kidneyleine, Eye Powder, Tanrue Herbs and Pills, and 5 Herbs.—Shipped about June, 1916, by Albert G. Groblewski, Plymouth, Pa. Analysis showed "Egiuterro" to consist essentially of aloes, Epsom salt, jalap, strychnin, alcohol and water, flavored with methyl salicylate. "Uicure" consisted of five bottles, lettered "A" to "E," inclusive. "A" contained nearly 20 per cent. of alcohol, with aloes, Epsom salt and menthol. "B" contained alcohol, ammonia, chloroform, ether, oil of sassafras, menthol, benzoic acid, cinnamic acid, resins, and an unidentified alkaloid. "C" was essentially a water-alcohol solution of quinin sulphate and red pepper. "D" was essentially a water-alcohol solution of morphin, gum guaiac, ammonia, ammonium carbonate, and essential oils. "E" consisted of tablets containing lithium, sodium carbonate, salicylates, and salol. "Sweet Rest for Children" contained opium, alcohol, asafetida, magnesium carbonate, sugar and water. "Beaver Drops Comp." was a resin dissolved in alcohol and water. "Blood Kleen" appeared to be essentially a syrup containing over 13 per cent. alcohol, about 5 per cent. potassium iodid, sarsaparilla, licorice, plant extractives, with a small quantity of arsenic. "Heart and Nerve Regulator" contained alcohol, morphin, chloral hydrate, sodium bromid, valerianic acid, red pepper, glycerin, sugar and water. "Kidneyleine" was a water-alcohol solution of the acetates and nitrates of potassium and ammonium, with aromatics and indications of spartein. It contained over 23 per cent. of alcohol. "Eye Powder" was essentially iodoform and boric acid. "Tanrue Herbs and Pills" contained tansy, rue, pennyroyal, hepatica, sassafras, ginger, cinnamon, verbena and podophyllum. The pills contained licorice with indications of aloes. "5 Herbs" contained mistletoe, stramonium, skullcap, and black cohosh. All of these products were falsely and fraudulently represented: "Egiuterro" as a preventive of smallpox, and as a remedy for rheumatism, dyspepsia, all stomach disorders, coughs, headaches, etc.; "Uicure" as a cure for rheumatism, pyemia, sciatica, gout, etc.; "Sweet Rest for Children" as a remedy for three-months' colic, fretful, cross and nervous babies; "Beaver Drops Comp." as a remedy for irregular menses, etc.; "Blood Kleen" as a treatment for syphilis, eczema, anemia, cancer and lockjaw; "Heart and Nerve Regulator" as a heart and nerve regulator, a perfect sedative for delirium tremens, St. Vitus' dance, sleeplessness and nervous headache; "Kidneyleine" as a remedy for Bright's disease and dropsy; "Eye Powder" as a remedy for cataract and sore eyes; "Tanrue Herbs and Pills" as a remedy for suppressed, painful and irregular menses and "5 Herbs" as a remedy for epilepsy and "fits." Fine, $210.—[*Notice of Judgment No. 6178.*]

1. Hafer's fraudulent business was described in THE JOURNAL, May 25, 1918, and the matter is reprinted in the pamphlet "Medical Mail-Order Frauds," price 20 cents.

HAVENS' WONDERFUL DISCOVERY

Report of the Council on Pharmacy and Chemistry

The following report has been authorized for publication by the Council. W. A. PUCKNER, Secretary.

E. C. Havens, Sioux Falls, S. D., requested an examination of a remedy which he asserts he discovered for the cure of influenza. The labels of the specimens submitted read:

"Prof. E. C. Havens'
Wonderful Discovery
INFLUENZA PREVENTIVE

"Directions—Take ½ teaspoonful in wine glass of water not over twice a day for one week, then repeat every alternity week.

"This remedy is good for Coughs, Colds, Lung Diseases, LaGrippe, Influenza, Rheumatism; good for Pains, Cramps, Backache, Lumbago, Neuralgia; for severe pains soak your feet in hot water for 3 nights, add 3 tablespoons of baking soda in water and apply Anti-Flue Medicine to the affected parts.

"This is manufactured and sold by Prof. E. C. Havens, formerly of New York, branch office now located Main Ave. and 10th St., Sioux Falls, S. D. Official Rules of the Council on pharmacy and chemistry of the American Medical Association shall be complied with."

In response to a statement asking for the composition of the "remedy" and for evidence for the claimed curative virtues, Mr. Havens sent the following "formula" and testimonials:

Havens' Rheumatic Remedy

Oil Wintergreen	2 drams
Oil Sassafras	2 drams
Oil Black Pepper	2 drams
Spts. Camphor	1 dram
Spts. Turpentine	2 drams
Spts. Chloroform	1 dram
Tr. Arnica	1 dram
Tr. Opium (out)	1 dram
Alcohol	8 ounces

The following is typical of the testimonials:

"Prof. Havens' Discovery for the cure of Influenza has, to my personal knowledge, done wonders for those who have used it. I personally know of several very severe cases which it has cured and of many cases which have been prevented by its use. I am taking the medicine as a preventative and can honestly say that I am glad of the opportunity of securing it.

"I think the people should know more about this discovery during these times."

When inquiry was made if the formula for "Havens' Rheumatic Remedy" represented the composition of "Prof. E. C. Havens' Wonderful Discovery," and if the word "out" written after tincture of opium meant that this ingredient was not now a constituent of the preparation, Mr. Havens wrote:

"In response to your letter of the 30th ult., beg to state that the Opium is not necessarily an ingredient in the compounding of this remedy, as it is difficult to obtain and I have eliminated its use.

"This formula for Havens' Rheumatic Remedy is the same formula as is used in Prof. E. C. Havens' Wonderful Discovery. I discovered the virtues of the remedy in the treatment of Influenza by practical experience and hence the name 'Discovery.'"

The Council finds that E. C. Havens' Wonderful Discovery is an unscientific, irrational mixture, marketed under therapeutic claims which are unwarranted and without foundation. As the preparation is irrational and unscientific, the promise "Official Rules of the Council on Pharmacy and Chemistry of the American Medical Association shall be complied with" is obviously false.

Correspondence

"GREEK ROOTS AND ENGLISH WORD FORMATION"

To the Editor:—Because errors are found in the Illustrated Medical Dictionary is no reason why the classical editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION should not be a purist. In the case of βρῶμα this lapse is peculiarly regrettable by reason of the use of this work in compounds referring to bromin, although the a comes from the second part of the compound, such as bromacetic, bromal, bromamide, bromalin, bromate and bromargyrite, all common terms in medicine. Webster's new unabridged, it is true, gives the word "bromatoxism," but calls attention to the fact that it is irregular. It gives also the regular forms of the compounds from βρῶμα (food), such as bromatography, bromatology and bromatologist. I beg to express the hope that in generous treatment of hybrid words our editor will not admit paesiatrics or pousphyllum.

H. W. WILEY, M.D., Washington, D. C.

[COMMENT.—We were at first slightly nettled to have such monstrosities as paesiatrics (pediatrics) and pousphyllum (podophyllum) thrust on us, by way of comparison, for we did not think the enormity of our own offense nearly so great. Where is the *locus classicus* for these monsters? Nor did we quite understand why they should be termed "hybrids," unless the good doctor would thereby indicate that in word formation, as well as in other forms of production, juxtaposition does not suffice—that there must be a coalescent union. Aside from this interpretation, we might state that by hybrid words one ordinarily designates such compounds as are formed from mixed elements, as from roots taken from two entirely distinct languages; for example, *Minneapolis*, the first part being Indian and the second part Greek; or *sub-way*, formed from a Latin and an English root.—ED.]

"A NEW TREATMENT FOR THE MORPHIN HABIT"

To the Editor:—In his letter (THE JOURNAL, March 8, 1919, p. 747) discussing "A New Treatment for the Morphin Habit," Dr. Hugh McGuigan seems to be propounding the theory that there can be no immunity or tolerance unless Ehrlich's side-chain hypothesis is satisfied.

If laboratory men can demonstrate antibodies only with proteins, then they must admit the limitations of laboratory methods and not assail clinical facts. These facts are that immunity or tolerance can be established to nonprotein substances, and that human beings can take increasing amounts of alcohol, arsenic, atropin, cocain, morphin, etc. In the case of morphin, the new-born child of a morphinist mother shows tolerance, and may die if morphin is not administered.

But perhaps Dr. McGuigan has merely misunderstood my terminology when I wrote of immunity and antibodies. I used the terms in the broadest sense, and was not obsessed by any fixed ideas about Ehrlich's haptins of the first, second or third order.

Dr. W. B. Reed inquires (THE JOURNAL, March 8, 1919, p. 747) concerning the permanence of the cures. I regret that I can give no statistics on this point, but I have no reason to suppose that the percentage of relapses is different with the infusion treatment from other treatments. I believe that the permanence of the cure is determined chiefly by the patient's moral stamina.

C. S. BLUEMEL, M.D., Denver.

Dentistry and Cancer.—Cancer of the mouth in civilized countries has been greatly reduced by good dentistry. Eighty-five per cent. of the cancers of the lip occur in smokers. Formerly clay pipes, which became very hot, were much used, and there has been a notable reduction in the number of cancers of the lip since the clay pipe has gone out of fashion. Smoking, however, is the cause of most cancer of the lip, the tongue and the floor of the mouth.—Major W. J. Mayo, War Department Lectures.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

QUALIFICATIONS FOR THE PRACTICE OF MEDICINE IN BRAZIL

To the Editors—Can you give me any information regarding the practice of medicine or surgery in Rio de Janeiro, Brazil? Are there any opportunities open there, and what are the fees? Any other information will be appreciated.

H. H. S., M.D., Va.

ANSWER.—The requirements to qualify for the practice of medicine in Brazil are said to be almost prohibitive. An exception is made in favor of foreign physicians who have been connected with faculties of medical schools or who are authors of important medical books. Examinations for licensure are given in Portuguese, and interpreters are not allowed. The examination covers all the branches of the medical curriculum; fees amount to about $85. The applicant's diploma must be officially indorsed in the country where it is issued, and the signatures must be recognized by the minister of foreign affairs of Brazil. With the more friendly relations established with South American countries since the war, it is possible that restrictions against American physicians may be made less severe. We are unable to answer the query regarding opportunities.

BOOKS ON FOODS AND DIET

To the Editor:—I have been asked if I know where a book that contained the relative amounts of protein, carbohydrates and fats of foods could be purchased. The inquirer is a diabetic and is naturally interested to know just what kinds of foods he can partake of and just what to avoid. Will you kindly enlighten me?

LOUIS J. WISHNEFSKY, Chicago.

ANSWER.—The following books may be consulted:

Gephart-Lusk: Analysis and Cost of Ready-to-Serve Foods, Chicago, American Medical Association, 15 cents.
Hill and Eckman: The Starvation Treatment of Diabetes, Boston, W. M. Leonard, $1.
Lusk: Science of Nutrition, Philadelphia, W. B. Saunders Company, $4.50.
Tibbles: Dietetics, Philadelphia, Lea and Febiger, $4.

Possibly the first pamphlet will be the most appropriate in this case. Hill and Eckman's book is also very practical, and while small, covers the ground thoroughly.

REFERENCES FOR SKIN REACTION DIAGNOSIS

To the Editor:—Will you please send me available references for skin reaction diagnosis and subsequent treatment for asthma? I refer to the protein sensitization theories.

J. W. B., Illinois.

ANSWER.—You may refer to the following articles on the treatment of asthma:

Walker, I. C.: Treatment of Bronchial Asthma with Proteins, Arch. Int. Med. **22**: 466 (Oct.) 1918.
Sterling, A.: Results of Tests for Food Protein Sensitiveness in Small Groups of Asthmatics, Penn. M. J., December, 1918.
Cooke, R. A.: Protein Sensitization in Human with Reference to Hay Fever and Bronchial Asthma, Med. Clinics N. America, November, 1917.
Walker, S. C., and Wilkinson, J.: Comparison Between Cutaneous and Intradermal Tests in Hay Fever and Asthma, J. M. Res., November, 1917.
Rackemann, F. M.: Interesting Reactions Incidental to the Treatment of Two Cases of Bronchial Asthma, J. A. M. A. **69**: 889 (Sept. 15) 1917.

LITERATURE ON VOLUNTARY CONTROL OF PULSE RATE

To the Editor:—Will you please refer me to literature concerning the voluntary control of the pulse rate?

CHARLES H. CARGILE, Bentonville, Ark.

ANSWER.—You may find the following what you want:

Favill, J., and White, P. D.: Voluntary Acceleration of Heart Beat, Heart **6**: 175, 1917.
West, H. F., and Lavage, W. E.: Voluntary Acceleration of Heart Beat, Arch. Int. Med. **22**: 290 (Sept.) 1918.
Voluntary Regulation of the Heart Beat, editorial, J. A. M. A. **70**: 1374 (May 11) 1918.
Voluntary Acceleration of Heart Beat, editorial, J. A. M. A. **71**: 1318 (Oct. 19) 1918.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, April 1. Sec., Dr. Allen H. Williams, 219 Goodrich Bldg., Phoenix.

COLORADO: Denver, April 1. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DISTRICT OF COLUMBIA: Washington, April 9-11. Sec., Dr. Edgar P. Copeland, The Rockingham, Washington.

FLORIDA (H): Jacksonville, April 8. Pres., Dr. Chas. W. Johnson, 33 E. Monroe St., Jacksonville.

IDAHO: Pocatello, April 1-2. Sec., Dr. Ray H. Fisher, Rigby.

IOWA: Iowa City, March 24-26. Sec., Dr. G. H. Sumner, Capitol Bldg., Des Moines.

MINNESOTA: Minneapolis, April 1-4. Sec., Dr. T. S. McDavitt, 741 Lowry Bldg., St. Paul.

MONTANA: Helena, April 1. Sec., Dr. S. A. Cooney, 205 Power Bldg., Helena.

NATIONAL BOARD OF MEDICAL EXAMINERS: Philadelphia, June 2-7. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee, Carson City.

NEW MEXICO: Sante Fe, April 14-15. Sec., Dr. W. E. Kaser, East Las Vegas.

OKLAHOMA: Oklahoma City, April 8-9. Sec., Dr. J. J. Williams, Weatherford.

RHODE ISLAND: Providence, April 3-4. Sec., Dr. B. U. Richards, State House, Providence.

UTAH: Salt Lake City, April 7-8. Sec., Dr. G. F. Harding, Templeton Bldg., Salt Lake City.

Texas November Examination

Dr. M. F. Bettencourt, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Dallas, Nov. 19-21, 1918. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Of the 11 candidates examined, 10 passed and 1 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Southern College of Medicine and Surgery		(1914)*	75.9
Chicago College of Medicine and Surgery		(1914)	75
Tulane University		(1918)	90
Woman's Medical College of Pennsylvania		(1895)	75.4
University of Texas (1917) 86.3; (1918) 84.4, 86.6, 89.5, 98.1.			
National School of Medicine, Mexico		(1918)	79.4
	FAILED		
Eclectic Medical University		(1918)	60

*Official reports do not show this candidate as a graduate of the institution named.

Pennsylvania January Examinations

Mr. Nathan C. Schaeffer, secretary of the Pennsylvania Bureau of Medical Education and Licensure, reports the oral and written examination held at Philadelphia, Jan. 7-11, 1919. The examinations covered 5 subjects and included 50 questions. An average of 75 per cent. was required to pass. Of the 49 candidates examined, 40 passed and 9 failed. The following colleges were represented:

College	PASSED	Year Grad.	No. Licensed
University of Louisville		(1910)	1
Baltimore Medical College		(1909)	1
Maryland Medical College		(1900)	1
Boston University		(1912)	1
Hahnemann Med. Coll. and Hosp. of Phila.	(1916) (1917, 2)		3
Jefferson Med. Coll.	(1913) (1915) (1916, 2) (1917, 7)		11
Medico-Chirurgical College of Philadelphia		(1916)	1
Temple University	(1916) (1917, 4)		5
University of Pennsylvania	(1889) (1916) (1917, 8)		10
University of Pittsburgh		(1917)	2
Woman's Medical College of Pennsylvania		(1917)	3
University of Bombay		(1913)	1

	FAILED	Year Grad.	Per Cent.
Chicago Homeopathic Medical College		(1902)	60
University of Louisville		(1917)	69.8
Washington University		(1905)	72
Western Reserve University		(1901)	69
Medico-Chirurgical College of Philadelphia		(1916)	73
Jefferson Medical College		(1917)	72.6
University of Pennsylvania		(1917)	69.8, 70.8
University of Kharkov		(1905)	39.2

Mr. Schaeffer also reports that 3 candidates were licensed through reciprocity from Jan. 23 to Feb. 13, 1919. The following colleges were represented:

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Western Reserve University		(1916)	Ohio
Jefferson Medical College		(1916)	N. Carolina
University of Pennsylvania		(1916)	Dist. Colum.

Book Notices

CONCERNING SOME HEADACHES AND EYE DISORDERS OF NASAL ORIGIN. By Greenfield Sluder, M.D., Clinical Professor and Director of the Department of Laryngology and Rhinology, Washington University Medical School, St. Louis. Cloth. Price, $7. Pp. 272, with 115 illustrations. St. Louis: C. V. Mosby Company, 1918.

The purpose of this remarkable book is, apparently, to record the present status of certain obscure but important subjects that have for many years undergone, and are still undergoing, investigations. It is an assembly to date of a work of research: a work that must stamp the investigator and his co-workers as scientists of a high order. Only pathologic conditions of the nose that are not common and are not well understood come under the author's view. Thus all frankly suppurative conditions of the paranasal cells are left out of the discussion. The subject-matter is made up of three main subjects, and these are supplemented by illustrative case histories.

"Vacuum frontal headaches," resulting from complete closure of the frontonasal duct, with or without active inflammatory processes, are, through diagnostic, anatomic and pathologic studies, placed seemingly on a foundation of quite clear understanding. The author speaks of six ways in which this duct may become occluded, and gives confidence by referring to a study of 580 cases.

The syndrome of nasal ganglion neurosis, a "neuralgic" headache syndrome of considerable definiteness and distinctiveness, is offered. The author dwells also on a secondary, less definite, syndrome, resulting, he thinks, from involvement of the sympathetic fibers of this ganglion, and including nasal coryzas, hyperesthesias and rhinorrheas, and indicating relationship to asthma and other distant disorders. This "sympathetic" factor is offered as one of importance, but with appropriate reserve. The sphenopalatine (nasal) ganglion is studied from all angles and the discussion on treatment includes injection of the ganglion with alcohol.

"Hyperplastic sphenoiditis" exists not alone in association with hyperplastic ethmoiditis but also as a separate disease of the sphenoidal region; this is one conclusion of the author's studies. The clinical bearing of certain types of headache, especially migraine, on sphenoidal disease is taken up. This involves an analytic study of the relationship of various nerve trunks to the sphenoidal cavity. Headaches, apparently dependent on a suppurating sphenoid, have sometimes failed to stop when all suppuration had ceased. Nevertheless the author was impressed with their probable local origin. And thus, with the aid of the micropathology of Dr. Jonathan Wright, he has been able to prove the presence of hyperplastic sphenoiditis even without any suppuration. This places the disease at the present time in the category of the extremely difficult, or even impossible, disorders, from the standpoint of diagnosis. We are under the necessity of revising and intensifying our diagnostic capabilities in the nasal region—that is, if nondischarging hyperplastic sphenoiditis as well as ethmoiditis is a reality and is important, as the author tells us it is. Inflammation within the sphenoid may result in irritation or inflammation of the sphenopalatine ganglion, but may also produce serious headaches and eye disturbance through affecting important nerve trunks in no direct manner related to that ganglion. Such disturbances are due, the author believes, to a hyperplastic bone process; and he believes that its mode of operation is to "narrow the bone canals through which the nerves pass."

The surgical aspect of the subjects treated are kept prominent, and surgical technic of the ethmoidal-sphenoidal region receives clear elucidation. The point of view is that of the nasal clinician, on whom the solution of the pathologic problems of this region naturally falls. The work is a rhinologist's work, so rich and varied in anatomic, diagnostic and operative information that rhinologists will hardly be fully educated without perusing it. The illustrations are numerous, varied, clear and useful. There is an extensive bibliography. In the presentation of such a complicated array of new information and new speculation, the text must necessarily sometimes become difficult to follow. Any possible

additional means of systematizing the material would be advantageous to the reader. And a later edition might well be provided with more subheadings in the text, especially in the chapter on hyperplastic sphenoiditis. But, on the whole, the author is to be congratulated on the work accomplished.

The Human Machine and Industrial Efficiency. By Frederic S. Lee, Ph.D., LL.D., Dalton Professor of Physiology in Columbia University. Cloth. Price, $1.10 net. Pp. 119, with illustrations. New York: Longmans, Green and Co., 1918.

From the industrial point of view the human body is a machine capable of productive work, yet liable to breakdowns, wear and tear with resulting depreciation in value. The one striking difference between the human body and the ordinary machine is that the latter is inanimate. The human machine works according to laws of physics and of chemistry, to be sure, but the attempt to estimate its working power by mere mathematical formulas or by chemical equations is always more or less unsatisfying because there has to be reckoned with that mysterious something called life. And the problem of how to utilize the human machine in the most efficient manner has in it more than securing the employer's aim of a maximum output, or the laborer's desire of a maximum wage. For the worker must be viewed as a human being with a right not only to a living wage but enough to enable him to maintain his position as the head of a family and a self-respecting member of society.

These facts make the study of the worker in industry a complicated and difficult task in which economic and sociological questions are inextricably tangled. But underlying all these there is a physiologic problem involved. The worker has to be studied under varying conditions as to hours of labor, night work, overtime, rests, meals, speed of work, character of occupation, hygienic surroundings, home conditions, etc., all of which conditions have a direct physiologic connection with the problem. Fatigue, for instance, is an objective reality, not merely a subjective sensation of tire, and it influences output, may contribute to accidents, and therefore should be studied from a physiologic and not alone an economic standpoint.

No one in this country is better qualified than Professor Lee to speak authoritatively on this aspect of the subject. Many years ago Mosso did pioneer service along these lines. Miss Goldmarck sharply drew attention to the relation between fatigue and efficiency. Lee has carried on the same work patiently and persistently in laboratory and factory and on the platform, and has investigated and urged others to investigate the physiologic—or pathologic— problems of the laborer.

This small volume is an epitome, almost like a lawyer's brief, of the many topics associated with the laborer as an efficient machine in industry. Dr. Lee is broad-minded and catholic in his views, and does not give the impression of being partisan. He is alive also to the difficulties of the problem, and fully recognizes that conclusions must be cautiously drawn, all conditions for experiment carefully fixed, and that there must always be considered that uncertain and varying "human element" so hard to estimate at its true value, a point so well brought out by Phillip Sargent Florence.

There is a bibliography of ten pages and a good index. The book is written in a clear, entertaining style. As a guide for layman or physician who desires an outline of this timely subject or who wishes to be helped to pursue it still farther, it is of the greatest value.

Los Desarreglos Gastro Intestinales del Lactante. Por Dr. Luis Morquio, Profesor de Clinica Infantil, Montevideo. Paper. Pp. 540. Montevideo: Tipografia Moderna, 1918.

Morquio discusses the gastro-intestinal disturbances of infants, which he considers are a medical and social question of importance, not only on account of their undue prevalence but also because they can be prevented. He bases his statement on twenty-five years of experience, both in private practice and in teaching the subject at the University of Montevideo. His book has naturally been prepared to meet the special needs of Uruguay, using for purposes of comparison the data from other countries. The book, from that standpoint, is rather exhaustive as Morquio has attempted to review in various chapters the data that exist in foreign literatures. Naturally he places particular stress on the importance of breast feeding, and incidentally lays stress on the protection of the mother, which he considers of great importance for the child, quoting in this respect Pinard's phrase: "Il faut d'abord, et ensuite et toujours protéger la mére" (the mother must be protected first, last and always).

The outsider will find of special interest the discussion of infant mortality in Uruguay, which Morquio places in the decade 1906-1915 at 50,000 children below the age of 2 years, that is, 5,000 a year, and half of which he estimates could be avoided. He invites attention to the fact that in Montevideo the mortality has actually increased during the five-year period 1910-1914, coinciding with the establishment of infant dispensaries and milk stations, although the coincidence may be merely casual. Specific measures are recommended to deal with this problem in Uruguay.

Social Medicine, Medical Economics and Miscellany

The 1916 Epidemic of Poliomyelitis

In Public Health Bulletin 91 of the Treasury Department, United States Public Health Service, C. H. Lavinder, A. W. Freeman and W. H. Frost have reported the results of their study of the 1916 epidemic of poliomyelitis in New York City and the Northeastern United States, including the whole of New England, the Middle Atlantic states, Delaware, Maryland and the District of Columbia. The report treats separately of the epidemic in Greater New York, with nearly 9,000 cases, and in the outside area comprising the states named, including New York State, with nearly 12,000 cases. In each area a general epidemiologic study was made, and in certain of the districts also an intensive epidemiologic study. The information gathered is analyzed, tabulated and represented in graphic charts, and covers every aspect of the subject. In this outbreak, the greatest in numbers and intensity that has ever been reported, with a high fatality rate, the epidemiologic features are quite similar to those of other epidemics that have been studied. There is nothing peculiar or unique either in seasonal incidence, age, distribution, comparative fatality rates at different ages, or in special conditions, such as environmental surroundings, source of milk and water supplies, occupation, prevalence of insects, or presence of animals, to which could be attributed any influence on the occurrence of the disease. There is also the usual lack of evidence as to contact relationships between cases of the disease. Any idea of a new or powerful strain of the virus is open to doubt, as far as New York City is concerned. The disease is endemic in that city, and the origin in this epidemic was quite possibly indigenous. The development of endemic diseases into epidemic proportions is a common observation, the reasons for which are still unknown. One of the notable features of the epidemic was the definite geographic focus in Brooklyn, and the striking uniformity of its spread both in rate and intensity from this point. Plotted curves of the rise and decline of the disease would seem to indicate that it spread by constantly multiplying foci of infection. As for the epidemic outside the city of New York, it may perhaps be accounted for much on the same grounds, the endemic presence of the disease, with the sudden extension to epidemic proportions for the same unknown reasons that apply to these phenomena. An interesting part of the study was the attempt to trace the relations of the New York City epidemic to the occurrence of cases in neighboring cities and the adjacent country. It was possible to trace a number of cases whose source of infection was probably in New York, and in a small number of cases almost certainly in that city, as these were the first cases occurring in the communities to which the patients had

recently migrated from New York City. The report offers the conclusion, however, that the study does not show that the cases actually in persons from New York City were a very large factor in the spread of the epidemic, since such known cases were the first known source of infection in only 9 per cent. of the infected towns, and constituted only 1.4 per cent. of the cases that occurred in the states included. Interesting also is the finding that the development of cases in persons going out from New York City was quite irregular; but in a large proportion of those probably definitely infected before leaving the city, the disease developed within seven days after their exodus.

Eugenic Marriage

The *British Medical Journal*, February 8, thus summarizes the new Norwegian marriage law, which came into force, January 1: A man under 20 and a woman under 18 may not marry without the consent of the authorities. Birth and baptism certificates must be produced before the bans are published. Under certain conditions one or both of the parties may be required to show that they have not been insane. Both must declare in writing that they are not suffering from epilepsy, leprosy, syphilis or other venereal disease in an infectious form. In the other alternative, the subject of these diseases must prove that the other party to the marriage contract is cognizant of the fact, and that both parties have been instructed by a physician as to the dangers of the disease in question. The physician is not to be tied by professional secrecy and is bound to interfere if he knows that any one of these diseases is being concealed by either side. A written declaration must also be given by the parties as to previous marriages and to children born to them out of wedlock. The marriage may be nullified if it is afterward proved that insanity or any of the foregoing diseases has been concealed, or if an incurable morbid condition incompatible with married life exists. Dissolution of the marriage may also be claimed if false declarations have been made or obstacles concealed. If the woman has become pregnant by another man, or if the man has rendered another woman pregnant and this has not been revealed, dissolution of the marriage may be claimed, whether the child of this irregular union be born before or after the marriage; such a claim must be made within six months of the facts becoming known to the claimant. Many other causes are defined as valid for the dissolution of the marriage.

Antivenereal Disease Legislation in Sweden

The Swedish law of June 20, 1918, provides that every one suffering from a sexual disease is obliged to apply for treatment to some physician and to follow the directions of the latter. Hospital treatment and medicines are also free. The physicians are obliged to assume the treatment. Large cities can appoint physicians for the purpose; if more than one physician is appointed, one of them at least must be a woman. Cities of more than 20,000 inhabitants must provide a policlinic in charge of specialists, but there must be nothing to show what the diseases are that are being treated there. The law provides further for a physician to be sent at state expense to remote points when it is learned that sexual disease occurs there. The physicians must enlighten the sick or their parents or guardians in regard to the nature of the disease, the danger for others and the necessity for refraining from marriage, in accordance with a circular which is supplied by the authorities, unless circumstances render this information perilous for the patient. Refractory or negligent patients must be denounced to the public health authorities; also the source of the infection, as to which the physician must enquire. The person denounced as the source of infection must appear before the public health authority (gezondsheid-inspecteur) or send him a certificate to the effect that he or she is healthy or is taking treatment. He or she can be compelled to enter a hospital for treatment, as also refractory or negligent patients with venereal diseases. If a person with venereal disease in a contagious phase is betrothed, the minister or priest concerned is informed so that he can prevent the marriage. If the local public health authority is not obeyed, then the higher officers will interfere with the help of the police. The patients have the right of appeal to the king against the measures imposed, but pending the appeal the measures will not be relaxed. All measures will be kept strictly secret from the outside world. The law abolishes regulation of prostitution. The *Nederlandsch Tijdschrift* from which we translate the foregoing credits it in turn to the *Münchener medizinische Wochenschrift*.

Medicolegal

Federal Court Not Concerned with Vaccination Case

(*Gillin v. Board of Public Education of City of Philadelphia et al. (U. S.), 250 Fed. R. 649*)

The United States District Court, Eastern District of Pennsylvania, dismisses for want of equity, and with costs to the defendants, the bill of complaint in this case, wherein the plaintiff sought in a federal court relief from the laws and decisions of the courts of Pennsylvania because, having refused to have his children vaccinated as required, they were denied admission to the public schools and he was convicted of having violated the state law requiring parents to send their children to school. The court says that counsel for the plaintiff was widely known to have given much thought to this legislation and to be familiar with its subject-matter in all its features, and the argument addressed to the court was earnest and exhaustive of all that was worth being urged in argument. The general situation was thus presented: Part of the legislation in question has for its object the requirement of a school education. Resistance to its commands invites the imposition of a penalty. Another part of such legislation has for its motive the preservation of the public health by the requirement of vaccination, thus preventing the spread of infectious diseases. The latter provision has no penal sanction. The provision, however, is that unvaccinated pupils may be denied admission to the public schools. The predicament is thus presented: A parent (the plaintiff) refuses to send his children to a school. He thereby incurs a penalty. He refuses to subject them to vaccination. He thereby incurs no penalty. The same parent (the plaintiff) sends his children to school. They are unvaccinated, and admission is denied them. The parent, not having sent them to a school, is then subjected to the penalty. The plaintiff complained of this as the imposition of a penalty for his refusal to comply with the vaccination requirement, which carries no penalty.

It is to be first observed that all the law that was involved (at least primarily) was state law. The person to whom the law might be held to apply was a citizen of the state, the authority and meaning of the laws of which were involved. No federal question was raised, nor has a federal court (in this presentation of the question) jurisdiction of the subject-matter. Jurisdiction was asserted only by virtue of the fourteenth amendment to the Constitution of the United States, which prohibits states from depriving citizens of life, liberty or property, without due process of law. Through his right to "due process of law," the plaintiff had the right to have the state tribunals pass on his defense, and to have the case conducted through all its appellate stages until it reached the highest court of the state, and, if any federal, constitutional or other question was involved, to carry it to the Supreme Court of the United States. There was no complaint of a denial of this right. His real complaint was that he was charged with noncompliance with the requirements of the laws of the state, and that the statutory penalty was imposed by a magistrate. From this judgment he appealed to the proper court sitting for the county. That court affirmed the judgment. From this he appealed to the superior court, with a like result. He then made his appeal to the supreme court of the state, and the

result was, so far as the state tribunals might have relieved him, a final disappointment. Of what did he now complain? Not that he was denied "due process of law," or even that his defense was not fully and fairly heard and the cause impartially determined; but his real complaint was that the questions of law should have been determined otherwise than as decided. He then again refused compliance with the state statutes, and, anticipating, as he was of course justified in doing, that the law of the case would be found as it was before found to be, he asked this court to stay the hands of the state authorities. This court has not followed the argument by which the state courts were asserted to be convicted of error in the rulings made. This court is willing to assume that like rulings would again be made. It bases its refusal to interfere on the sufficient ground that the fourteenth amendment contains neither mandate nor authority for it to interfere, and it seems to it that the statement of the proposition as presented suggests its own supporting argument.

Right to Protect Patients from Annoyance by Dogs

(State v. Cooper (S. C.), 96 S. E. R. 398)

The Supreme Court of South Carolina reverses a judgment of conviction of the defendant, a physician, of the alleged malicious killing of a hound dog. The court says that the appeal presented a single necessary issue to be decided, and that was: Did the testimony so sufficiently and reasonably tend to show that the killing was malicious as to have sent that issue to the jury? A consideration of the whole record satisfies the court that there was no such testimony, and that the trial court ought to have directed a verdict for the defendant. The defendant was in charge of the state sanatorium for tuberculous patients some 6 or 7 miles out of Columbia. The grounds were unenclosed, and some of the patients slept in the open. One of the prosecutors, a farmer, resided about a quarter of a mile from the sanatorium, and the other prosecutor, a physician, was a resident in the city of Columbia. These two kept a pack of fox hounds at the farmer's house which were unrestrained and which prowled wheresoever their appetites carried them. The testimony tended strongly to show that these dogs were accustomed to go on the premises of the sanatorium in the nighttime, to disturb the patients resting there, and to do damage to the property. A patient testified that the patients had been much annoyed in the nighttime because of dogs coming among the cots and taking the lunches that had been prepared for the patients to eat during the night, and in many instances waking up and frightening the patients, and that the women who were inmates of the institution had been frightened on several occasions by being awakened by dogs that had come in among their cots or beds.

As a result of that situation and shortly before the transaction in issue, the state health officer addressed a letter to the attorney general in which he reported the intrusion of dogs and asked what steps he might take to prevent it. The attorney general answered very properly:

> In reply thereto I beg to advise you that you are authorized to use such force as is necessary to rid the institution of this nuisance. You have the right and it is your duty to protect these wards of the state from annoyance or harm from any cause.

The defendant, in describing how the dog came directly thereafter to be shot, said that one night, as he was starting to make the rounds and was about to leave the central building, his attention was drawn to a dog growling near the center of the building, and he stepped back into the house, got his rifle, and fired. The supreme court is satisfied that the testimony did not so reasonably tend to fix malice in the defendant's mind when the killing was done as to have warranted a submission of that issue to a jury. The history of the case satisfies the court that the attorney general would have been well within his rights to have directed the solicitor not to hand out a bill against the defendant. As the case stood, the anomalous spectacle was presented of one of the state's solicitors prosecuting one of the state's public servants, engaged in a difficult and important charity, and that servant was defended by the state's chief law officer.

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, June 9-13.

Alabama State Medical Association, Mobile, April 15.
American Association of Anatomists, Pittsburgh, April 17-19.
American Physiological Society, Baltimore, April 24-26.
Georgia State Medical Association, Atlanta, April 17.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Ottawa, May 7-8.
Louisiana State Medical Society, Shreveport, April 8-10.
Maryland, Medical and Chir. Faculty of, Baltimore, April 22-24.
New York State Medical Society, Syracuse, May 6.
North Carolina State Medical Society, Pinehurst, April 15.
Ohio State Medical Association, Columbus, May 6-8.
South Carolina Medical Association, Florence, April 15-16.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Feb. 12, 1919

The President, DR. B. FRANKLIN STAHL, in the Chair

The Work of the Health Insurance Committee of Pennsylvania

WILLIAM DRAPER LEWIS, Esq., Dean of the Law School, University of Pennsylvania: The Health Insurance Committee, by making a survey of typical districts, has gathered certain facts regarding the quantity, and the economic results of sickness among wage earners. The two main results of our investigations are that the actual amount of sickness in the community among wage earners and the days lost, estimated from 20 to over 50 per cent., are increased by the fact that the wage earner cannot afford to lay off when he is sick. A man who is sick keeps on his feet, and the sickness, which might have been only a short one, becomes a long and serious one. In Kensington the average time lost was thirty-six days in the year. Sickness is the greatest single cause of poverty and destitution, the estimate being between 40 and 60 per cent. A typical case in "John Callahan," employed by a large corporation, who married young and had several children. He was a sober, industrious man, and received good wages. When he got sick all his savings disappeared. The physician who had been attending him, who had been paid little or not at all, continued to come; the grocer allowed him to run up bills, and the physician and the grocer carried the load. Then Mrs. Callahan got sick, and the children were underfed. The family ran down hill until Mrs. Callahan took the young child to the hospital. Then through social service the family was restored to a self-supporting position. "John Callahan" is alive today and at work, but he never will do a full day's work again. The loss of wages, the result of sickness fell on the one man in the community who was least able to bear it. The question asked by the state of the health commission is, "Is there any remedy for "John Callahan," any machinery by which, when he is sick, he can get adequate medical care decently paid for? In Europe they believe they have solved it. I do not say that the system of England is right. I do not say that any particular insurance is right. What I do say is that the economic loss from sickness must be removed from "John Callahan," if you want to do away with the destitution which you as physicians, more than the average members of the community, are paying for. The problem affects your profession more than any other. No insurance plan will ever be a success unless the medical profession is rightfully compensated. We must work out a plan by which the medical profession ceases to carry the burden which it is now bearing. It is no more right that this burden should be carried by you than that it should be borne by John Callahan. It should be carried by the community in part, by John Callahan in part, and perhaps by the employer in part. Important service in the community should be paid for adequately, or the community suffers.

Health Insurance as a State Policy

DR. JOHN B. MCALISTER, Harrisburg: It is not my intention to present any arguments for or against health insurance as a state policy, but rather to present the sickness problem as developed by the investigation of the commission. Sick-

ness produces a problem between five and seven times as great as that produced by industrial accidents. In 1916, there were 3,025,375 working days lost in Pennsylvania through accidents, while approximately 16,800,000 working days were lost on account of illness. Over 385,000 employees in the state are constantly suffering from illness. The average loss of working time to employees in the state is six days each year because of sickness, a wage loss to employees of $33,000,000. The average cost of medical care for every employee's family is between $30 and $50 a year. During the influenza epidemic, anthracite coal production dropped behind 500,000 tons in a few days. The state spends over $6,000,000 every year for the treatment of illness. In addition, $4,000,000 is spent for the maintenance of institutions for the care of defectives, due partly to the neglect of illness. Illness was the primary cause of dependence in 50 per cent. of 5,000 cases studied in California, and in 42 per cent. of the 1,141 cases in New Jersey. Present facilities for medical care among wage earners are not satisfactory. The number of beds per thousand population is 3.1. Five beds per thousand population are necessary. Sixteen of the sixty-seven counties in Pennsylvania have no hospital beds, and nine other counties have less than one per thousand persons. The cost of ward beds is beyond the means of half the employees. Nearly 2,000,000 days of free hospital treatment were given in a single year. Almost 900,000 persons patronized charity dispensaries. Some change is needed which will make medical care available as a right and not a charity. Ninety-one per cent. of all deaths of persons of working age in 1916 were from industrial diseases. One half of existing sickness could be eliminated were preventive measures established. A large number of communities in the state have no active health work, and from 70 to 75 per cent. of the schoolchildren in the state are physically defective. Responsibility for illness rests on the community, industry and the individual, and these three groups are meeting the loss from illness in wholly unequal shares; the burden on the individual is often disastrous and out of proportion to his individual responsibility. Whether the corrective distribution should be accomplished by an extension of existing voluntary insurance agencies or by a system based on a modification of the English or other European plan, we are not prepared to say. We as a profession must face a great change in the social structure of this country. I believe there is no danger of health insurance legislation at this time, but the situation is similar to that of a few years ago, when workmen's compensation suddenly became a law. Had the medical profession taken part in the development of this legislation, many of its present defects might have been prevented. Every county medical society should appoint a committee to study this subject.

Health Insurance

ISADORE STERN, Esq., of the Philadelphia Bar: In 1917 the Pennsylvania Health Insurance Commission was established to investigate.

1. Sickness and accidents of employees and their families not compensated under the workmen's compensation act.

2. The adequacy of the present method of treatment and care of such sickness and injury.

3. The adequacy of present methods of meeting losses caused by such sickness or injury either by mutual or stock insurance companies or associations, by fraternal or other mutual benefit associations, by employers and employees jointly, by employees alone, or otherwise.

4. The influence of working conditions on the health of employed persons.

5. Methods for the prevention of such sickness or with a view to recommending ways and means for the better protection of employees from sickness and accident and their effects, and the health of employed persons and their families in the commonwealth.

The commission, after a year's study, asked for an extension until 1921. Could the state compel the insured to go to designated physicians? How would physicians be selected? What percentage of illness is genuine? Would the necessity of dental care be put on a par with vaccination? Could health insurance be inaugurated at a reasonable cost? The data in the hands of insurance organizations are based on the results of medical examination, and the only persons insured are those able to pass the physical test required by the insurance company. Would the adoption of health insurance place all physicians on the pay-roll of the state at a standard subsidy? If physicians are to be standardized, why not inventors, lawyers, painters and singers? Should not health insurance compel a periodic examination instead of supplying medical aid after the person is sick? If a system of health insurance can be devised which will satisfy employer and employed, which will not humilitate the employee by compelling him to consult a physician not his choice, or to take against his will a form of treatment at a state institution; and if such insurance can be inaugurated at a reasonable cost, will not stifle individuality among physicians, or be paternal, then let us have health insurance. On any other basis it would be contrary to common sense.

DR. FREDERICK L. VANSICKLE, President, Medical Society of the State of Pennsylvania: The Commission on Health Insurance has been wise in not presenting an immature, improperly constructed plan. The workmen's compensation law was framed without consultation with the medical profession. The medical profession does not believe that poverty is caused primarily by illness. As president of the Medical Society of the State of Pennsylvania, I welcome this discussion, feeling that it will arouse the medical profession. We should have the same right as the legal profession in determining the price set on our services. Every county society should have a committee on health insurance. We are trying at Harrisburg to do something for the medical profession on medicolegal problems. Many times the medical profession has made mistakes because it failed to cooperate in these efforts. If health insurance comes we should participate in framing a measure which shall be equitable to the people and to the medical profession.

FIFTEENTH ANNUAL CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION

(Concluded from page 824)

Discussion on Medical Education

F. A. WINTER, Brig.-Gen., M. C., U. S. Army, Army Medical School, Washington, D. C.: A very radical change is desirable in our methods of admission to the permanent Medical Corps of the Army. The following plan is put forth for consideration: Heretofore it has been the custom of the Medical Department of the Army to take a man after he has completed one year's postgraduate service as a hospital intern and require him to go through a written examination which concentrated his attention on a bunch of papers for a period of one week. Our friends in the Navy have blazed the trail for us and taught us a much better method of doing this.

The Army will assign to any medical school a man from the permanent Medical Corps as the professor of military medicine, to teach military hygiene and military surgery, and ask that he may have the scrutiny of students during the time they are at the school. If in the student's fourth year he shall have obtained 85 per cent. or more in his collegiate work and has presented evidence of a good moral character and of steadfastness, and does his work with the advice of members of the faculty and with the professor of military medicine, that man, without further examination, will be considered entitled to admission to the Medical Reserve Corps of the Army, and to admission to the courses given at the Army Medical School. As to the hospital service, it is proposed to give the man his year in a hospital under the status of an officer of the Medical Reserve Corps. In other words, we will pay him as a first lieutenant of the Medical Reserve Corps $2,000 a year, with certain allowances, and put him through one year of hospital service under the auspices of the Medical Department of the Army. The Army is now able to maintain a fair num-

ber of good general hospitals in which we can give the necessary hospital training.

I am more optimistic with regard to the status of medical education than is expressed in the paper of General Munson. Considering what has been accomplished in the last ten years, conditions are certainly very roseate so far as the future of medical education is concerned.

E. R. STITT, Rear-Admiral, U. S. N., Navy Medical School, Washington, D. C.: In the Navy we are confining ourselves to three types of specialization. Men can go from the ships to the Navy Medical School and for six weeks can have a general course, dividing them up into groups. In that six weeks' course, one week—what we consider the most valuable part of the course—is spent by the medical students in the trenches with the Marines at Quantico, where they acquire that spirit of optimism so characteristic of the Army. When our Medical Reserve Corps men come back from Quantico, from 75 to 95 per cent. of them ask to go into the Marines. For six weeks these men get work along general lines, and if they impress us as not being benefited, they are sent back to general service. The men who show a liking for general surgery, or ear, eye, nose and throat work, or internal medicine, are put into these three groups for a further six weeks' training along these special lines. At the end of six weeks—altogether three months—they are sent for a three months' course in postgraduate instruction in civil hospitals, such as the naval hospitals at Philadelphia, New York and the Great Lakes. The commanding officers of the hospitals not only give these men opportunities along special lines, but also give them every opportunity for postgraduate work.

W. N. BISPHAM, Col., M. C., U. S. Army, Fort Sheridan, Ill.: During the war nearly 10,000 officers passed under my personal observation, and I had to deal personally with these men. It was the older men, those over 40 years of age, who gave us the trouble because they had been educated before the recent progress in medical schools. The younger men gave us less trouble, and we obtained better results.

There were many men who claimed to be specialists after taking a postgraduate course. Of 100 men seventy-five said they were surgeons and wanted to do surgery. Careful examination disclosed that very few of them could do what they claimed to do as specialists. Most of them received their postgraduate instruction by sitting in the amphitheater rather than by assisting at operations. That method must be changed in our postgraduate schools. The required one year of internship was to give these men as practical a course as possible. Specialists are becoming more and more prevalent, but they must be thoroughly and practically trained to be valuable assets in the medical profession and not millstones on our necks.

W. C. RUCKER, Major, M. C., U. S. Army, Newport News, Va.: Experience in examining physicians shows that the great bulk of them know little about hygiene and sanitation from a practical standpoint. In this war the majority of deaths and illnesses have been due to diseases controllable by personal hygiene. At the port of embarkation at Newport News, Va., 84.4 per cent. of the deaths were due to sputum-borne diseases, and 72 per cent. to pneumonia. Personal sanitation and hygiene go right back to the practitioner himself, and unless we have a scheme of educating young physicians so that they can educate their families and their patients, we are going to see a continuation of the sputum-borne and other diseases which are controllable by personal hygiene.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: Before the war I was an enthusiastic military man. Now, I am not so enthusiastic. The Reserve Officers' Training Corps will have to be materially changed if it is to be a success. In the University of Michigan I have advocated the R. O. T. C. for many years and we have had it there. A man was appointed by the government as professor of military tactics, hygiene and sanitation, etc. He was a man from the Regular Army who could not speak English correctly and was a laughing stock on the campus. What influence could such a man have with the students? When a man says to the students, "You are here to learn how to be soldiers, and you must let Latin and Greek and mathematics and things of that kind go," what can be the result? Such things will have to be changed if you are going to make any success out of it.

Hygiene and sanitation are not properly taught in any of the medical schools. The Red Cross has fallen down in hygiene and sanitation because there is no practical instruction in hygiene and sanitation anywhere, and there cannot be in any medical school. If during the summer the Public Health Service or the Army and Navy would put students at work in sanitary inspection, where they could study the infectious diseases, much could be accomplished. They would obtain a practical education in these branches. The Public Health Service has done this to a certain extent. I recommended to the Public Health Service the employment of certain men who had finished the second year to do the work of rural inspection, etc.

Many medical men in the Regular Army do not know anything about hygiene and sanitation from a practical standpoint. Camp sanitation in a physical sense is almost perfect, but camp sanitation and city sanitation are being taken away from the medical profession because they are being done much better by the sanitary engineer. The sanitary inspectors were not medical men but sanitary engineers, and that is getting to be true in civil work as well as in military work.

DR. JOSEPH BYRNE, New York: A point brought out in one paper referred to practical examinations. The foundation of instruction in medicine is practical examinations, practical tests of a man's practical knowledge.

As to psychological tests, we hear quite frequently about the inapplicability of psychologic tests as applied to physicians in determining mental capacity. The mind is only one aspect, and the measurements of time reactions is not an index to the man's mental capacity.

DR. LOUIS J. HIRSCHMAN, Detroit: Having recently returned from France, I can say that many of the physicians who went to France knew little about practical hygiene and sanitation. What little training they had was obtained offhand in the Army camps before going overseas. They went directly into the base hospitals, however, and they bore the brunt of the work. The epidemic diseases we had to deal with in France came from America by way of the transport system.

JOINT SESSION OF THE COUNCIL ON MEDICAL EDUCATION WITH THE FEDERATION OF STATE MEDICAL BOARDS

Hospital Standardization with Especial Reference to Medical Educational Work in Hospitals

DR. A. R. WARNER, President of the American Hospital Association, Cleveland: To be published in full in THE JOURNAL.

DISCUSSION

DR. ARTHUR DEAN BEVAN, Chicago: We have found that seven years of technical training gives our students a fair conception of medical science, but not much training in the art of medicine. A good knowledge of the fundamental medical sciences and of the science of diagnosis and therapy can be obtained in the class-room; the art of medicine, however, can be acquired only in the actual handling of patients, and this must be done in the dispensary or the hospital. This makes essential one year of training in a hospital before medical students secure their licenses to do independent practice. It is essential for the protection of the public.

DR. E. P. LYON, Minneapolis: From an educational standpoint the medical school is interested in every function of a hospital. We cannot have the best education without the best medical surroundings. Our education is narrow in the extreme if it does not include the sociological aspects of the question. The hospital social service workers who are experts along these lines, will have to be considered in

standardizing hospitals. Special professional societies, like the American College of Surgeons, are going to have a great influence in standardizing specialties and in standardizing conditions under which the specialties shall be pursued, but all of us should give our best counsel, our best thought, in the work we can do.

I believe the year of intern service should be made a preliminary requirement for the degree; but a union of all forces available is necessary to bring it about.

MR. FRANCIS W. SHEPARDSON, Director of Department of Registration and Education, Springfield, Ill.: There is a distinct movement in Illinois in favor of the community hospital. Within relatively few years a large number of towns having a population of 25,000 or less—and this is particularly true of larger towns—have been developing small hospitals. These hospitals are going to be the public health centers of the community. It is going to be absolutely necessary very soon to standardize hospitals in order that they may be properly graded and ranked. We ought to know what hospitals are worthy and what hospitals are not worthy. I myself do not believe we shall ever get the hospitals of this country standardized as to the nature of their work, as to their organization, as to the training they give unless we get a combined nationwide movement from some central power that will have behind it sufficient authority to make its decisions recognized everywhere.

DR. ADOLPH KOENIG, Pittsburgh: Every point Dr. Bevan made with reference to the intern year and hospital standardization has been in force in Pennsylvania since 1911. It is written into the statutes of Pennsylvania that no one may seek examination for the right to practice medicine in that state without having had a year of hospital internship in an approved hospital, and the Bureau of Medical Education and Licensure of Pennsylvania has either disapproved or approved of every hospital in the state.

DR. CHARLES P. EMERSON, Indianapolis: The great trouble with the intern problem is that we cannot handle it satisfactorily if interns are licensed practitioners. The city of Paris found that out years ago. One of the rules adopted and carried out there was that no physician who had a medical diploma could serve as an intern. In other words, the man who leaves medical school has the right of either qualifying for practice or for a place in a hospital as intern. If he is qualified for practice he automatically rules himself out from any internship.

DR. JOHN M. DODSON, Chicago: In 1912 I suggested that members of hospital staffs who did work of instructing interns be made extramural members of the faculties of the medical schools. They should occasionally attend the faculty meetings of the schools whose interns they are supervising, and become familiar with the methods, purposes and ideals of that school, and come to feel themselves an integral part of it. The members of the faculties should occasionally visit the hospitals where the interns go and confer with the supervisors and other members of the staff.

I do not believe we shall proceed very effectively if we attempt too drastic measures along the line of hospital standardization. There are few states where any central organization has been given such power as has been given to the licensing boards in Illinois, New York, Pennsylvania, and one or two other states. I believe this matter of standardization can be brought about by publicity and by such moral influence as the Council on Medical Education and the medical schools exert. In the standardization of hospitals, the various agencies concerned should have part. The work should center about the American Hospital Association itself. No body of people are so familiar with all aspects of hospital practice and hospital activities as are the superintendents of hospitals.

DR. J. HENRY CARSTENS, Detroit: We have heard a good deal about hospital standardization, but who is going to do it? The state licensing boards cannot very well do it because they are largely political bodies. The hospital superintendents would like to do it, but they do not have sufficient influence with the boards of trustees and the directors and trustees of hospitals do not understand the importance of standardization. Some agency must take hold of this thing and push it to a successful termination. I believe the American Medical Association should be the leader in the standardization of hospitals.

Resolution on Hospital Standardization

DR. WARNER submitted the following resolution as the sense of the conference, which was unanimously adopted:

Resolved, That it is the consensus of opinion of the members of this conference that the apparent agreement on the subject of hospital standardization, as expressed in this meeting, should be utilized to expedite progress on this problem. To that end it is the consensus of opinion of this conference that the American Medical Association be asked to take the leadership in formulating a committee, representing all interested factors, which shall give this subject of hospital standardization such consideration and study as is possible, and that the American Medical Association together with this committee arrange to call a meeting of all those interested in and affected by hospital standardization at some convenient point and time within the next year.

FEDERATION OF STATE MEDICAL BOARDS OF THE UNITED STATES

Annual Meeting, held in Chicago, March 4, 1919

The President, DR. DAVID A. STRICKLER, Denver, in the Chair

Present Status of the Provision for Annual Registration of Physicians

DR. DAVID A. STRICKLER, Secretary of the Colorado State Board of Medical Examiners, Denver: California and Louisiana require an annual registration of physicians. In North Carolina each physician has to pay a tax of $5 each year to the sheriff of his county. This provides for his registration and locates him annually. In Alabama the secretary of each county society sends a roster of the physicians of that county. No fee is attached. California reports that the annual registration tax for physicians began Jan. 1, 1918, and has been of great value. It provides additional income; it affords an accurate check of those licensed to practice in California; it affords a working basis for prosecuting violators of the medical practice act, and it provides for the maintenance of a most effective working organization. When the advantages are thoroughly explained to any who might object to such a tax, they become active supporters of the amendment.

The states not having the provision, but which think favorably of it, are Florida, Georgia, Illinois, Indiana, Iowa, Maryland, Massachusetts, Mississippi, Rhode Island, South Dakota, Washington, D. C., and Wisconsin.

West Virginia and New Hampshire are opposed. Pennsylvania does not need the funds, although it can see some advantages in the plan, while Michigan doubts the feasibility of it. Michigan does not believe the assessment practical unless generally endorsed.

There is now in the legislature of Colorado a bill providing for annual registration of all licenses of the board of medical examiners. From present indications it will pass.

The question is a live one, and another year or two will doubtless enable us to draw more definite conclusions as to its merits.

Annual Registration of Physicians

DR. FREDERICK R. GREEN, Secretary of the Council on Health and Public Instruction of the American Medical Association, Chicago: An annual registration of physicians would enable the state board to keep in touch with legal practitioners; it would enable the board to keep a closer check on the whereabouts and movements of all licensed practitioners; it would be a great aid in keeping a correct roster of addresses. That it would enable the licensing boards to discover cases of individuals using the licenses of those who have died or have left the state, or from whom certificates may have been stolen or purchased has not been clearly demonstrated. No specific instances have been advanced by the proponents of the plan to show how annual registration would assist in detecting fraudulent or unlicensed practitioners or how such a procedure would give any better results than the present method.

Another argument by those advocating an annual registration is that it would establish a better control of unethical practitioners; but this argument also is vague. If an annual license were required, fakers, charlatans, quacks and dishonest physicians, having once secured a license, would be quite as particular about renewing it as would reputable physicians; while those who were not licensed would not be included in the annual registration and consequently there would be no more record of them under the proposed plan than there is now. That the annual registration would enable the department to locate the man or woman it wanted does not necessarily follow. An itinerant quack would naturally register from his home, and this would give no clue as to his whereabouts while he was traveling; or if he suspected that any effort was going to be made to locate him, he could easily send in his registration fee from any county in the state. Annual registration is no solution of this problem since, for the last six months, efforts have been made to locate a man registered in California, where annual registration of physicians is in force. He was found in Alabama, but the California board had not the slightest clue to his whereabouts.

The annual registration fee of $2 would furnish funds for the activities of the state board with slight cost to the individual physician, but to finance at the expense of physicians a department established for the protection of the public is unjust, no matter how small the license fee may be.

The proponents of this measure should produce definite, detailed evidence of the way in which annual registration would facilitate the enforcement of the medical practice act and the detection of violators of it. Then it will be necessary to consider whether the advantages outweigh the inconvenience caused by it. Then, an annual system of registration should be devised which will be carried on at the public expense, without any fee levied on a single profession, and a penalty for noncompliance with the law should be devised which will not jeopardize a physician's license to practice medicine. If these conditions can be met, then there can be no objection to the annual registration of physicians as an administrative convenience.

DISCUSSION

MR. FRANCIS W. SHEPARDSON, Springfield, Ill.: As to annual registration, if every year a physician were required to send his name and address to the state capitol, a great advance would be gained, in my judgment, and it would be tremendously to the advantage of the department of registration and education striving to administer the medical practice act.

DR. WALTER P. BOWERS, Boston: If in movements that tend to protect the people we wait for action by the people, we usually have to wait a long time. In most states, legislatures are influenced in public health measures almost entirely by medical sentiment. Very few public health measures are inaugurated by the people, although they are designed particularly for the people. Therefore I think the responsibility still rests on the medical profession to deal with these matters so far as they relate to the protection of the people, until the people themselves come forward and say they are ready to tackle the problems. We believe in the annual registration of physicians in Massachusetts. Some physicians have been opposed to it because they were led to believe it was not a wise measure. Our laws require that each individual in continuing the practice of medicine shall register with the city or town clerk, who makes a return to the board of registration in medicine, and the fee for such registration is 25 cents.

DR. BYRON U. RICHARDS, Pawtucket, R. I.: I am in favor of an annual registration, but instead of $2 I believe the fee should be $1, or possibly 50 cents.

DR. HENRY W. BRIGGS, Wilmington, Del.: In the state of Delaware we have had for years exactly what you are trying to make general throughout the United States—the annual registration of physicians. Each physician must register annually with the clerk of the county in which he practices and pay a fee of $10.50 for which he receives a commercial license which entitles him to practice for that year only.

DR. ADOLPH KOENIG, Pittsburgh: When the bureau of medical education and licensure was established in Pennsylvania in 1911, the law required that a directory of the legalized physicians of Pennsylvania be published. This was done. When I came to this meeting I was somewhat in doubt as to the advisability of this annual registration of physicians; but after listening to the various arguments, I am convinced that it is the right thing to do.

MR. AUGUSTUS A. DOWNING, Albany, N. Y.: After careful study of this subject, it became evident to me that there was only one redress for the evils of society in the matter of dentistry, and that was the annual registration of dentists. Now, we are introducing a bill into the state legislature for the annual registration of physicians, and the council of the Medical Society of the State of New York has favored it.

DR. WILLIAM ALLEN PUSEY, Chicago: We have had the matter of annual registration of physicians under discussion for a considerable time, and if I sense the feeling of the members of the medical profession correctly, the chief objection lies in the fact that our right to entitle us to practice medicine must be established each year. I am ready to be convinced, but it is clear to me that this measure is intended largely for the convenience of the licensing boards to keep track of physicians. I can see why a law might be enacted requiring a man to reidentify himself whenever he moves from one location to another, but I do not believe in the annual registration of physicians.

(*To be continued*)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Review of Tuberculosis, Baltimore

November, 1918, **2**, No. 9

*Glycerin "Extract" of Tubercle Bacilli as an Antigen in Complement Fixation. S. A. Petroff, Trudeau, N. Y.—p. 523.
*Clinical Value of Complement Fixation in Pulmonary Tuberculosis. L. Brown and S. A. Petroff, Trudeau, N. Y.—p. 525.
*Id. L. B. Lange, Baltimore.—p. 541.
Id. B. Stivelman, Bedford Hills, N. Y.—p. 546.
*Roentgenologic Examination of Chest. K. Dunham, Cincinnati.—p. 551.

New Antigen for Tuberculosis Complement Fixation.—Petroff supplements his numerous studies on complement fixation in tuberculosis with a brief description of a new antigen which he has prepared from tubercle bacilli as follows: Luxuriant growths of bacilli, grown on 4 per cent. glycerin beef broth, are filtered through several thicknesses of filter paper and washed until the filtrate broth is free. Bacilli are then dried and pulverized thoroughly. One gram of pulverized bacilli is triturated in a mortar with 100 c.c. of 25 per cent. glycerin in water, and boiled slowly in a flask having a return condenser. After being set aside for several hours, the supernatant fluid is removed. This supernatant fluid is the antigen. One-tenth c.c. of a 1:20 dilution represents one sixth of the anticomplementary point. In Petroff's opinion, the advantages of this antigen are as follows: (1) It is easy to prepare. (2) There is no danger of infection in handling it. (3) It is less anticomplementary than antigen which has not been boiled and remains stable for a long time. Petroff says that this antigen, after one year of use, has given the best results in the Trudeau Laboratory, and is superior to his other antigens: a so-called potato filtrate, sodium hydrate and methyl alcohol preparations.

Clinical Value of Complement Fixation in Pulmonary Tuberculosis.—An exhaustive analysis in relation to the complement fixation test to the various clinical features of pulmonary tuberculosis in a series of 540 cases was made by Brown and Petroff. They believe that the most important function of the fixation test is, if possible, to indicate the presence or absence of activity, and this question is approached by the authors from several standpoints. How-

ever, a combination of lassitude, loss of weight, pleurisy, night sweats, etc., was taken as significant of activity. On the other hand, cough, tubercle bacilli in the sputum, dyspnea or hoarseness were not taken as signs of acitvity. Positive tests were obtained in 51 per cent. of incipients, and from this they increased gradually to 81 per cent. in the far advanced cases. Of these cases, 30 per cent. of the incipient, 42 per cent. of the moderately advanced, and 61 per cent. of the far advanced were classed as active. When activity was present complement fixation was positive, in 81 per cent., when activity was absent the test was positive in 61 per cent.; and when activity was questionable a positive reaction occurred in 79 per cent. When the diagnosis was negative or questionable the test was positive in 26 per cent.; 9.8 per cent. of patients who had tubercle bacilli in the sputum at some time or other failed to react.

In the cases where tubercle bacilli were present at the time of the test, 90 per cent. reacted positively; and of these cases the test was positive in 98 per cent. when activity was present, and in 82 per cent. when it was absent. In active cases the chances that a patient has a positive complement fixation test is 12 to 1 if he has spat blood, but only 4 to 1 if no blood spitting has occurred. In patients without activity the ratios are 3 to 1 and 5 to 4. Complement fixation was positive in 85 per cent. of the cases with hemoptysis and in 64 per cent. of those without. Considered from another point of view, 80 per cent. of the instances of hemoptysis and 83 per cent. of instances of streaked sputum occurred in patients with a positive complement fixation. Whereas 24 per cent. with complement fixation positive on admission had bad effects following exercise, only 6 per cent. with complement fixation negative had bad results. Hence a negative test seems of more value as regards exercise than a positive, and patients who react negatively can be allowed to exercise much more freely than those with positive reactions.

The results of the intradermic tuberculin test do not run parallel with those of the complement fixation test. Of six cases of pleurisy with effusion, four were negative with complement fixation, although one had tubercle bacilli in the sputum. The operation of artificial pneumothorax produced no change in the reaction of the patient in three cases. The intercurrence of typhoid fever in three cases of tuberculosis also produced no change. The test was always negative in patients with malignant tumor; negative in three cases with cardiac disease and positive once. All of the 540 patients were given routine Wassermann tests; of these thirteen reacted. During their residence in the sanatorium the test changed in 30 per cent. of incipients, 26 per cent. of moderately advanced and 19 per cent. of the far advanced cases. All tests were performed with the several antigens that have been devised by Petroff, namely, the potato filtrate, sodium hydrate and glycerin extract antigens.

Complement Fixation Test for Tuberculosis.—Tests on a large number of serums which were available from the general medical service of the Johns Hopkins Hospital and the patients of the Hospital for Consumptives of Maryland, at Eudowood are tabulated by Lange. Four antigens were used, the bacillary suspension of Miller and the sodium hydroxid extract, the methyl alcohol extract and the potato broth culture filtrate of Petroff. Tuberculous serum gave 51.5 per cent. of fixations of any degree, while nontuberculous serums gave 13.6 per cent. of fixations. The proportion of higher fixations was greater with the serums from clinically tuberculous cases. The alcoholic antigen gave the highest percentage of strong fixations in clinically tuberculous cases, and the sodium hydroxid the lowest. With serums from nontuberculous cases the greatest proportion of strong filtrations was obtained with the sodium hydroxid antigen and the smallest with the potato filtrate antigen. There was a greater percentage of strong fixations with the serums of more advanced pulmonary cases than with those of the less advanced. One hundred and forty-seven serums giving a positive Wassermann reaction were tested with tuberculosis antigens. Ten serums from patients free from clinical syphilis or tuberculosis gave fixations and twelve from patients in whom there was clinical syphilis but no clinical tuberculosis.

Roentgenologic Examination of Chest.—Believing that no chest examination is complete without the help that the roentgen ray can give, and with the view of taking a step toward standardizing the technic of such examination, Dunham summarizes methods of procedure which he has found to be of most value and which he believes necessary to proper roentgen-ray work on the chest.

December, 1918, **2**, No. 10

*Attempts to Reduce Resistance of Guinea Pigs to Tuberculosis by Means of Various Agents. H. J. Corper, Chicago.—p. 587.
*Transfusion of Tuberculous Sheep with Blood of Normal and Immunized Sheep. E. Mayer and D. J. Hurley, Trudeau, N. Y.—p. 604.
Following Up Discharged Sanatorium Patient. D. R. Lyman, Wallingford, Conn.—p. 615.
When Does an Individual Become a Case of Tuberculosis from Board of Health Point of View and When Does He Cease So To Be? J. B. Hawes, 2nd Boston.—p. 622.
State Program for Eradication of Tuberculosis. H. W. Hill, St. Paul.—p. 630.
Antituberculosis Measures. A. K. Krause.—p. 637.

Attempts to Reduce Resistance.—Corper states that neither the roentgen ray, benzene, thorium X, tuberculin (Koch's O. T., obtainable on the market) or ether, had any effect on the course of the macroscopic anatomic tuberculosis of guinea-pigs.

Transfusion of Tuberculous Sheep.—Mayer and Hurley believe that their findings suggest that normal blood, on repeated transfusions, is of slight value, while blood containing antibodies is possibly of considerable value in the treatment of animals (sheep) suffering with a progressive type of tuberculosis.

February, 1919, **2**, No. 12

*Effects of Typhoid and Antityphoid Immunization on Pulmonary Tuberculosis: History of Typhoid Epidemic at Trudeau Sanatorium. L. Brown, F. H. Heise, S. A. Petroff and G. E. Wilson.—p. 717.
Significance of Limited Respiratory Movement, and Viscero-Motor, Viscero-Sensory and Viscero-Trophic Reflexes, in Diagnosis of Pulmonary and Pleural Inflammation. F. M. Pottenger, Monrovia, Calif.—p. 734.
*Ultimate Results in 1654 Cases of Tuberculosis Treated at Modern Woodmen of America Sanatorium. J. A. Rutledge and J. B. Crouch, Woodmen, Colo.—p. 755.
*Subsequent History of Patients Discharged "Apparently Cured" from Arequipa Sanatorium for Wage Earning Women During Six Years. P. K. Brown, San Francisco.—p. 764.

Typhoid at Trudeau Sanatorium.—Analysis is made by Brown and others of thirteen cases of typhoid occurring in persons who also had pulmonary tuberculosis. It is evident, then, that typhoid may occur in patients suffering from active or arrested pulmonary tuberculosis. Inactive pulmonary tuberculosis exerted no appreciable effects on the course of typhoid, but as the two deaths from typhoid occurred among those with active pulmonary tuberculosis, it appears possible that active pulmonary tuberculosis may influence the typhoid and render recovery less likely. Typhoid does not influence inactive pulmonary tuberculosis and apparently also does not affect active pulmonary tuberculosis. Antityphoid inoculations did not apparently influence the inactive pulmonary tuberculosis, and increase of pulmonary symptoms, such as occurred in those with active pulmonary tuberculosis, could readily be explained by the temporary increase of symptoms usual in such patients. No permanent untoward results followed in any case. The immediate results of treatment in patients receiving antityphoid inoculation differed in no way from the immediate result obtained in two other years when antityphoid inoculations were not given.

Ultimate Results of Sanatorium Treatment of Tuberculosis.—Of the 1,654 patients referred to by Rutledge and Crouch in their analysis, patients who have been discharged from the sanatorium for from four to nine years, 771, or 46.6 per cent., are living, and 883, or 53.4 per cent., are dead. In 425, or 25.7 per cent, of these patients, tubercle bacilli were not demonstrated in the sputum; of these 357, or 86.4 per cent., are living and 68, or 13.6 per cent., have died. Thirty-five of the 68 patients who died, under this classification, died from causes other than tuberculosis. Eighty-nine were classed as being in the incipient stage, with a positive history of tuberculosis; 76 of this number, or 85.4 per cent. are living and 13, or 14.6 per cent., have died. Of 96 moderately advanced cases appearing in the total number,

or 87.5 per cent., of the patients are living, and 12, or 12.5 per cent., are dead. Of the 24 far advanced cases, 13, or 54.25 per cent., are living and 11, or 45.75 per cent., have died. There were 119 doubtful cases, with 112, or 94.1 per cent., living and 7, or 5.9 per cent., dead, 5 of the 7 patients having died from causes other than tuberculosis. During four years in 1,229 of the 1,654 cases tubercle bacilli were found in the sputum. This was 74.3 per cent. of all cases. Four hundred and thirteen, or 33.6 per cent., are living and 816, or 66.4 per cent., are dead. Eighty-four were incipient, with 62 living and 22 dead. There were in all 495 moderately advanced cases with bacilli in the sputum, of which 259, or 52.3 per cent., are living, and 236, or 47.7 per cent., are dead. Of 650 far advanced cases, 92, or 14.2 per cent., are living, and 558, or 85.2 per cent., are dead.

Subsequent History of Arequipa Patients.—Brown has found that tuberculin, properly used, is a valuable if not indispensable remedy in about 10 per cent. of cases of tuberculosis and that it might be used with advantage as a supplementary safeguard in a much larger number whose immunity is probably sufficient by only a narrow margin. At Arequipa the use of tuberculin has been restricted to patients whose condition and rate of improvement at the sanatorium were not satisfactory, and this has applied to cases in all stages. When the rest on bed and correction of all other physical conditions result in no clinically measurable evidence of improvement after a month of observation, they introduce tuberculin as the only new variable, continuing everything else as before. If a patient ceases to improve before attaining her normal, after a gain however slow, tuberculin is tried. In this way it is possible to judge whether tuberculin is really responsible for a change for the better. In the initial period of correction of underlying conditions extensive use is made of iron and arsenic preparations by hypodermic injection with great benefit. Every chance is given the patient to show her own recuperative ability without its stimulation by tuberculin. Sixty-eight per cent. of patients in the first stage have been back at work from one to five years and are still well.

Archives of Neurology and Psychiatry, Chicago

March, 1919, **1**, No. 3

*Intravenous Use of Arsphenamin in Syphilis of Nervous System. B. Sachs, New York.—p. 277.
*Histologic Evidence of Path of Invasion of Brain in General Paresis. S. T. Orton, Philadelphia.—p. 285.
*Associated Incidence of Syphilis of Nervous System and Cardiovascular Syphilis. E. D. Friedman, New York City.—p. 289.
Systematic Study of Personality in Estimating Adaptability. G. S. Amsden, White Plains, N. Y.—p. 301.
*Treatment of Dementia Praecox by Intravenous Injection of Sodium Chlorid. W. C. Miller, Warren.—p. 313.
Bearing of War Neuroses on Immigration. L. Kolb, Ellis Island.—p. 317.

Intravenous use of Arsphenamin in Syphilis of Nervous System.—In general paresis and in tabes the chief lesions are within the substance of the brain or of the cord far removed from actual contact with the cerebrospinal fluid. Therefore, it is almost impossible to bring the spirocheticidal remedy into immediate contact with the foci of disease unless these remedies can be introduced through the blood streams. Sachs calls attention to the fact that it is only in the earliest stages of tabes dorsalis that the disease involves the meninges and spinal ganglions; later on it sets up marked degenerative changes in the spinal tissue, and these secondary changes are entirely beyond the reach of the cerebrospinal fluid and its contents. In the remaining meningo-encephalitic and meningomyelitic processes of specific origin, more or less exudative in character, it might be supposed that spirocheticidal substances introduced into the cerebrospinal fluid might have an active therapeutic effect, if such substances could course freely in the cerebrospinal fluid and if it could be shown that they were retained in this fluid for any satisfactory period of time. It has been shown, however, that the cerebrospinal fluid circulates imperfectly and there is very little absorption of this fluid by the cortical or spinal cells. Hence, however attractive the intraspinal medication has appeared to be, it is essentially useless and theoretically unsound. Sachs has obtained most satisfactory results from intravenous injections administered on alternate days for a period of three to four weeks according to the symptoms presented by the patient, and then allowing a period of complete rest or giving weekly or semiweekly injections of mercuric salicylate for a period of four to six weeks and then again starting in with the same course of arsphenamin injections. Some patients have received as many as forty or fifty intravenous injections within a period of a year or eighteen months.

Path of Invasion of Brain in General Paresis.—Observations were made by Orton on the larger cranial vessels before they enter the brain mass in material taken from nine cases of paresis. The lesions encountered fall into two groups: (1) those in which the process is evidently stationary, and (2) those showing evidence of progressive chronic inflammation. The stationary lesions are comparable in every respect to those of healed syphilitic endarteritis. The active chronic inflammatory lesions consist in a lymphocyte and plasma cell exudate in the perivascular connective tissue sheath—the adventitia—which is quite comparable with that of the vessels within the brain substance, although the plasma cells are a little less numerous and apparently do not tend to mass together into the mosaics seen around many smaller arterioles in the cortex. Such exudates were observed in eight of the nine cases. In one case, in addition to this cellular infiltration, one very small vessel traveling in the adventitia of the carotid in the neck showed the reduplicated succulent swollen endothelial cells which are found in acute stages of syphilitic endarteritis.

Association of Syphilis of Nervous System and Cardiovascular Syphilis.—Among 125 cases of syphilis of the central nervous system seen by Friedman there were nineteen cases of cardiovascular disease—an incidence of 14 per cent. Of these, thirteen showed disease of the aortic valve either alone or in combination with aneurysm or dilatation of the aortic arch. There were two cases of myocardial degeneration with resulting decomposition. Two showed typical aneurysms without demonstrable disease of the aortic valve. In the series was one carotid aneurysm, and one patient showed the clinical picture of premature atherosclerosis with probable occlusion of mesenteric vessels.

Salt Solution Intravenously in Dementia Praecox.—In ten cases of dementia praecox Miller administered intravenous injections of 0.9 per cent. salt solution made in freshly distilled water. The sodium chlorid used was free from sulphates, alkaline earths and heavy metals, magnesium, iodids, potassium, iron and ammonium. Intravenous injections were made by the gravity method. The initial dose was 3 c.c. per kilogram of body weight. Each succeeding dose was increased by 30 c.c. and injections were made at seven-day intervals for a period of four and one-half months. Seven of the ten patients showed no mental improvement; of the remaining three, two brightened up slightly, the third brightened up enough to work. Eight of the ten patients gained in weight from 2 to 15 pounds; one patient lost 1 pound and one patient remained stationary. The blood of twenty-five patients was examined for chlorin content and in none was there a deficiency.

Boston Medical and Surgical Journal

March 6, 1919, **180**, No. 10

Pneumonia and Empyema. H. Gray, Camp Devens, Mass.—p. 265.
Venereal Infirmary at Camp Humpheys, Virginia. G. G. Smith, Boston.—p. 270.
Normal Arterial Tension. C. J. Enebuske, Cambridge, Mass.—p. 272.

Endocrinology, Los Angeles

October-December, 1918, **2**, No. 4

Cyclic Changes in Interstitial Cells of Ovary and Testis in Woodchuck (Marmote Monax). A. T. Rasmussen, Minneapolis.—p. 353.
Rôle of Thymus in Pediatrics. M. B. Gordon, Brooklyn.—p. 405.
Physiologic Extracts of Lymph Glands: Newest "Hormone." S. Vincent, Winnipeg.—p. 420.
Case of Myxedema with Tumor of Pituitary Body and Lesions of Other Endocrine Organs. W. H. Good and A. G. Ellis, Philadelphia.—p. 431.
Points of Contact Between Endocrinology and Gynecology. E. Novak, Baltimore.—p. 438.

Journal of Experimental Medicine, Baltimore

March 1, 1919, **29**, No. 3

*Temperature of Acutely Inflamed Peripheral Tissue. M. Segàle, Genoa, Italy.—p. 235.
Study of Atypical Type II Pneumococci. E. G. Stillman, New York City.—p. 251.
*Occurrence of Bacillus Influenza in Throats and Saliva. I. W. Pritchett and E. G. Stillman, New York City.—p. 259.
*Determination of Length of Life of Transfused Blood Corpuscles in Man. W. Ashby, Minneapolis.—p. 267.
*Production of Specific Antisera for (I) Infections of Unknown Cause and (II) Against Agent Causing Chicken Sarcoma. P. Rous, O. H. Robertson and J. Oliver, New York City.—pp. 283 and 305.

Acutely Inflamed Peripheral Tissue.—The experiments set forth by Segàle establish the fact that the heat of the inflamed part has its origin primarily in the local biochemical activity of the cellular elements which participate in the inflammatory process. The inflammatory hyperemia, instead of being the necessary and constant source of the inflammation must be considered a natural physiologic compensation for the abnormal local calorification. The rapid circulation of the blood in the inflamed part tends to moderate the increase in local temperature and to equalize the temperature with that of other parts of the body.

Bacillus Influenzae in Throats and Saliva.—Pritchett and Stillman report facts obtained during an investigation of the bacteriology of influenza which included (1) the use of oleate hemoglobin agar, (2) the incidence of *B. influenzae* in uncomplicated and complicated cases of influenza and the associated types of pneumococci, (3) the occurrence of *B. influenzae* in convalescents, and (4) the occurrence of *B. influenzae* in the mouth secretions or throats of normal people. The medium used in this work was Avery's oleate hemoglobin agar. *B. influenzae* was cultivated from the mouth of 93 per cent. of cases of influenza and bronchopneumonia. It was present in the mouths of 43 per cent. of normal individuals. The types of pneumococci found associated with the complicating bronchopneumonias of influenza were the types usually found in normal mouths.

Life of Transfused Blood Corpuscles.—Ashby claims that the life of the transfused corpuscle is long; it was found to extend for thirty days and more. Therefore, beneficial results of transfusion are not due primarily to a stimulating effect on the bone marrow, but to the functioning of the transfused blood corpuscles.

Specific Antiserums for Infections of Unknown Cause.—The results obtained by Rous and others would seem to indicate for the absorption method some usefulness in the study of immunity to infections of unknown cause. By the method of selective absorption with tissue, protective serum antibodies have been demonstrated by Rous and his associates in the case of an infection of unknown cause; namely, a chicken sarcoma transmitted by a filtrable agent. Geese were repeatedly injected with the finely ground sarcoma and with blood from fowls moribund of it; and their serum acquired the power to prevent the tumor-producing agent from causing growths. That this was not due to antibodies elicited by the chicken tissue as such was shown by exhaustion of the goose serum with chicken red cells, a step which had not the least effect on the tumor-preventing power, and also by experiments with rabbits immunized as were the geese. These animals developed strong chicken antibodies in their serum which failed nevertheless to affect the tumor-producing agent.

Journal of Orthopedic Surgery, Boston

March, 1919, **1**, No. 3

Transplantation in Gunshot Injuries of Nerves. T. P. McMurray, Liverpool, England.—p. 126.
Tendon Fixation in Irrecoverable Musculospiral Paralysis. A. R. Jones, London, England.—p. 135.
*Bristow Coil and Treatment by Graduated Muscle Contraction. A. H. Freiberg, Cincinnati.—p. 148.
*Severe Acute Sprains of Knee Joint. M. C. Harding, M. C.—p. 152.
Practical Applications of Pathology to War Injuries of Nerves. S. M. Cone, M. C., U. S. A.—p. 157.
Changes Produced in Growing Bone After Injury to Epiphyseal Cartilage Plate. S. L. Haas, San Francisco.—p. 166.

Bristow Coil and Treatment by Graduated Muscle Contraction.—Attention is directed to a method of physical therapy which is as yet but little known in this country and which comes from the war practice of our English allies with the assurance of a considerable usefulness. The fundamental idea of this method lies in the ability to stimulate the damaged muscles to contraction by an induced current in such a way that this may be exactly graduated both as regards degree and rhythm. One may begin with contraction of minimal intensity and very slow rhythm and proceed to increase in both regards according to the functional response which is thereby obtained. The method also has the very great advantage of enabling one to limit stimulation very nearly to a particular muscle or group of muscles and to an extent not possible with the older methods. The current which is yielded by the Bristow coil differs from that of the usual faradic coil only in so far as it may be used in very great intensity without producing pain and, as stated, with the opportunity of quite definitely regulating and graduating the dosage from treatment to treatment and from case to case, as well. No effect is attributed to the electricity as such, except as it is used as the means by which the muscle is made to contract to the desirable degree and frequency.

Sprains of Knee Joint.—Harding urges aspirating any distended joint promptly, since practically all effusions are bloody and absorb slowly. They lead to the formation of a thickened, chronic joint. Distention of the capsule must be prevented, as it is one of the main causes of a weakened knee in after life. Early baking and massage and strict supervision of the manner of returning to use are likewise important.

Kentucky Medical Journal, Bowling Green

March, 1919, **17**, No. 3

*Chronic Interstitial Nephritis. F. H. Clark, Lexington.—p. 102.
*Cardiovascular Changes in Chronic Interstitial Nephritis. B. C. Frazier, Louisville.—p. 104.
*Symptom Complex of Chronic Interstitial Nephritis. R. H. Davis, Louisville.—p. 105.
*Chronic Interstitial Nephritis with Especial Reference to Cardiovascular Changes. J. A. Flexner, Louisville.—p. 107.
*Diagnostic Findings in Gastric and Duodenal Ulcers. J. A. Sweeney, Louisville.—p. 111.
Traumatic Injuries of Chest. W. L. Gambill, Jenkins, Ky.—p. 116.
Intraspinous Treatment of Cerebrospinal Lues. L. K. Bahlauf, Louisville.—p. 118.
*Chorea Etiology; Post-Mortem Findings in Acute Case. S. Graves and B. H. Paige, Louisville.—p. 122.
Aneurysm of Left Subclavian Artery. B. C. Frazier, Louisville.—p. 127.
I. Metastatic Abscesses Following Iscio-Rectal Abscess. II. Extensive Suppuration of Buttocks Following Burn. B. Asman, Louisville.—p. 128.
Headache. S. G. Dabney, Louisville.—p. 129.
Removal of Piece of Steel from Eye. A. O. Pfingst, Louisville.—p. 132.
Renal Stone in Child. B. C. Frazier, Louisville.—p. 135.

The papers by Clark, Frazier, Davis, Flexner and Sweeney were abstracted in THE JOURNAL, October 5, pp. 1164 and 1165.

Chorea Etiology.—The case reported by Graves and Paige offers several interesting features. Apparently, a typical acute chorea made its appearance synchronously with acute infection. The spinal fluid was negative for bacteria, syphilitic antibody and globulin, but was under pressure. Associated with the chorea was acute endocarditis and lobular pneumonia with marked toxic lesions in nearly all the parenchymatous organs. The postmortem Wassermann was negative. Histologically the brain was negative.

Medical Record, New York

March 8, 1919, **95**, No. 10

Practical Points in Diagnosis of Syphilis of Nervous System. E. L. Hunt, New York City.—p. 391.
*Theory of Asthma as Confirmed by Nearly Four Hundred Cases Successfully Treated. M. I. Knapp, New York City.—p. 393.
Kromayer Lamp and Colloidal Sulphus in Treatment of Post-Influenzal Alopecia. C. A. Simpson, Washington, D. C., and Newport, R. I.—p. 402.
*Iodin Urine Test for Acidosis. C. Mitchell, Chicago.—p. 404.

Theory of Asthma.—The underlying cause of asthma according to Knapp is the overproduction of irritating gases in the gastro-intestinal canal, which, operating physically

and chemically, produce the asthmatic paroxysm. 1. Physically, by overdistention of abdomen and of the pressure upward of the diaphragm against the lungs, whose expansion is violently interfered with. 2. Chemically, by irritating the esophagus and pharynx, which irritation the patient attempts to clear away by the act of coughing. So long as the irritation continues, so long continues the ineffective coughing. The longer the irritation continues, the more violent becomes the act of coughing, the consequence of which is dilatation of the pulmonary air vesicles, which may and often does terminate in emphysema of the lungs. The asthmatic paroxysm ends when the irritation in the esophagus and pharynx have been removed, partly by neutralization of the irritation and partly by its dilution with pharyngo-esophageal secretions.

Iodin Urine Test for Acidosis.—An iodin test for acidosis has been devised by Mitchell which he claims can be used quantitatively. The best way to apply the test is the following: To 145 c.c. of water (hydrant water will do) are added 3 c.c. of Lugol's solution and 2 c.c. of a saturated solution of picric acid, the whole being thoroughly mixed. The result is a fine clear reddish liquid of bright color. Pour this liquid into a white dish and heat it on the water bath to a temperature of 180 F., but if a water bath is not available it may be heated over the flame until fumes are abundantly given off, boiling being avoided by turning down the flame sufficiently. When thus heated, the urine is added as quickly as possible but in small amounts at a time, using for this purpose a graduated buret. If, however, a buret is not available, a small graduate or graduated bottle may be used from which to pour the urine into the hot liquid. In acidosis the amount of urine needed to turn the bright red color to a bright yellow color is small, and the smaller the worse the case. In severe cases 2 or 3 c.c. of urine will almost immediately discharge the red color. In cases of moderate severity 8 or 10 c.c. may be required. Normal urines do not usually affect the color in smaller amounts than 15 c.c., except possibly in unusual conditions of concentration, where the amount of urine in twenty-four hours may be but a few hundred cubic centimeters. In most cases of normal urine, of specific gravity ranging from 1.015 to 1.020, the amount of urine required to effect change from red to yellow is around 20 c.c., or even higher, as high as 50 c.c. in some cases.

Military Surgeon, Washington, D. C.

March, 1919, **44**, No. 3

Duties and Responsibilities of Regimental Medical Officer. G. Cree.—p. 221.
Improved Cubicle Arrangement. W. C. Mabry.—p. 225.
Evacuation System for a Base Hospital. E. S. Kilgore.—p. 230.
Serving Food in Military Hospitals. R. K. Hoskins.—p. 234.
Cafeteria System of Hospital Messing. A. G. Wilde.—p. 239.
Advance Surgical Formations—Modifications Which Seem Necessary in Light of German Offensive of March-July, 1918. G. de Tarnowsky.—p. 245.
Epidemic Meningitis Situation at Camp MacArthur. L. S. Medaliai.—p. 258.
Place of Pathologic Anatomy in Military Medicine. J. Ewing.—p. 273.

New Orleans Medical and Surgical Journal

March, 1919, **71**, No. 9

Histologic and Bacteriologic Investigation of Juxta-Articular Nodule in Leper. D. H. Currie and H. T. Hollman, U. S. Leprosy Investigation Station.—p. 384.
Antityphoid Serotherapy. A. Rodet, France.—pp. 388-391.
League of Nations. D. H. Theard, New Orleans.—p. 393.

New York Medical Journal, New York City

March 8, 1919, **109**, No. 10

Rôle of Focal Infections in Psychoses. H. A. Cotton, Trenton, N. J.—p. 397.
Eradication of Tuberculosis in Localities. E. Souchon, New Orleans.—p. 404.
Social Diseases in Army. E. S. Cooke, Philadelphia.—p. 404.
Pneumonia in Influenza. A. C. Reed, San Francisco.p. 406.
Postinfluenza Alopecia. O. L. Levin, New York City.—p. 409.
Hospital Abuses. J. W. Kennecy, Philadelphia.—p. 411.
Inactivity Means Waste. R. H. MacNair, Springfield, Mass.——p. 413.
Physical Education and National Health. J. Rudis-Jicinsky, Chicago.—p. 414.
Prophylaxis and Treatment of Influenza. L. T. de M. Sajous, Philadelphia.—p. 416.

Public Health Journal, Toronto

February, 1919, **10**, No. 2

Relation of Pediatrician to Community. A. Brown, Toronto.—p. 49.
Rotary Means Service. W. H. Alderson, Toronto.—p. 62.
New Social Order. S. Z. Batten, Philadelphia.—p. 70.

South Carolina Medical Association Journal, Greenville

February, 1919, **15**, No. 2

Report on Epidemic and Contagious Diseases Occurring in South Carolina During 1918. J. A. Hayne, Columbia, S. C.—p. 362.
Sodium Citrate and Acetate Treatment of Influenza. W. T. Lander, Williamston, S. C.—p. 367.
Wassermann Test. B. Nims, Columbia, S. C.—p. 368.
Intussusception. R. N. Pollitzer, Charleston, S. C.—p. 369.
Importance of Early Recognizing Mental Disorders. J. F. Munnerlyn, Columbia, S. C.

Southern Medical Journal, Birmingham, Ala.

February, 1919, **12**, No. 2

Differentiation of Organic and Functional Disorders of Stomach. J. H. Gibbes, Columbia, S. C.—p. 57.
*Standardized Rest in Treatment of Pulmonary Tuberculosis. S. E. Thompson, Kerrville, Texas.—p. 61.
Problems of Base Hospital Laboratory. A. H. Bunce, Atlanta, Ga.—p. 65.
Who Pays? Cost of Sickness and Mortality. J. H. Florence, Tulsa, Okla.—p. 71.
*Malaria Control Demonstrated at Hamburg, Ark. H. A. Taylor, New York City.—p. 74.
Roentgen Ray Treatment of Skin Cancer. H. H. Hazen, Washington, D. C.—p. 87.
Large Angio-Lipo-Fibroma of Thigh. F. C. Watson, Bocas del Toro, R. P.—p. 92.
Judgment Versus Operative Technic in Obstetrical Work. J. R. Garber, Birmingham, Ala.—p. 93.
Results of Examination of Five Thousand Selective Service Registrants. A. McGlannan, W. W. Requardt and E. H. Hutchins, Baltimore.—p. 97.

Standardized Rest in Tuberculosis.—Prolonged rest in bed in the treatment of phthisis pulmonalis is advocated by Thompson because he believes that exercise has no place in the treatment of a tuberculous lesion, regardless of its location. The final results of treatment in most tuberculosis sanatoria are disappointing. Permitting the patient to go on exercise before he is ready for it is the most common cause in curable cases. Immobilization in bed stops absorption; septic symptoms disappear, the patient gets fat. He should be kept quiet till scar tissue is formed and healing is well established.

Malaria Control Demonstration.—The effectiveness and practicability of measures directed exclusively against the propagation of mosquitoes as a means of controlling malaria in towns, was further demonstrated during 1917 by operations carried on in Hamburg, Ark. The work was conducted by the International Health Board in connection with the United States Public Health Service and the Arkansas State Board of Health. Taylor describes what was done.

Surgery, Gynecology and Obstetrics, Chicago

March, 1919, **27**, No. 3

*Pathology of Foreign Bodies in Air and Food Passages: 628 Cases. C. Jackson, Philadelphia.—p. 201.
*Blood Transfusion. J. de J. Pemberton, Rochester, Minn.—p. 262.
Treatment of Certain Types of Anorectal Fistula. A. A. Landsman, New York City.—p. 276.
*Classification of Cutaneous Neoplasms. F. T. Van Beuren, Jr., New York City.—p. 278.
*Postoperative Pneumonitis. M. Cleveland, M. C., U. S. A.—p. 282.
Hydatiform Degeneration in Tubal Pregnancy: Report of Forty-Eight New Cases. A. W. Meyer, Palo Alto, Calif.—p. 293.
Immediate Surgical Management of Acute Appendicitis in Military Hospitals: Present Method of Administering Triple Typhoid Vaccine. H. McKenna, Chicago.—p. 303.
*Omentopexy in Cirrhosis of Liver. E. Eliot, Jr. and R. Colp, New York City.—p. 309.
*Incompetency of Ureterovesical Valves not Due to Obstruction. T. N. Hepburn, Hartford, Conn.—p. 316.
*Operation for Production of Sterility. R. C. Cupler, Chicago.—p. 317.
Lowe's Colostomy Receptacle. H. A. Lowe, M. C., U. S. A.—p. 319.
Pocket Method of Closing Skin Defects. J. E. Fuld, New York City.—p. 320.
*Method of Excluding Septic End of Bowel During Intestinal Resection. R. E. Farr, Minneapolis.—p. 322.

Simplified Technic for Intravenous Injection of Arsphenamin or Antitoxin in Combination with Normal Salt Solution. P. C. Clemensen, Chicago.—p. 323.
New Forceps for Control of Hemorrhage after Removal of Tonsils. W. A. Gross, Chicago.—p. 324.
Case of Anthrax: L. J. Pritzker, Chicago.—p. 325.
*Peritoneal Drainage. C. L. Heald, Cedar Rapids, Ia.—p. 326.
Transfusion Apparatus. R. E. Farr, and E. W. Gilroy, Minneapolis. —p. 327.
*Suggested Step in Technic of Inguinal Herniotomy. M. Pitzman, St. Louis.—p. 329.

Foreign Bodies in Air and Food Passages.—Jackson analyzes 628 cases in which he removed a foreign body from either the lungs or the esophagus. Taking together all deaths from any cause whatever within one month after endoscopy, the mortality has been 1.9 per cent. Of the twenty-three cases in which the foreign body had been present for periods ranging from two months to twenty six years, all of the patients recovered perfect health except two. One of the two died after removal of a nail that had been in the lung for four years. The symptoms pointed to embolism of the middle meningeal artery. The child was known to have an endocardial lesion secondary to the septic pulmonary focus; but whether the embolus was from this or from the primary infective focus in the lung could not be determined (4). The other patient died of some thoracic or abdominal condition of sudden onset, the nature of which could not be determined.

Blood Transfusion.—A series of 1,036 transfusions performed on 429 patients are recorded by Pemberton. Five were done by means of the paraffin-lined cylinder, thirty by a modified cannula-syringe technic, and the other 1,001 by the citrate method. The cases are grouped according to indications for transfusion: Primary (pernicious) anemia, 657 transfusions in 185 cases. Secondary anemia, 243 transfusions in 149 cases. Bleeding, 81 transfusions in 59 cases. Acute toxic and septic conditions, 34 transfusions in 25 cases. Leukemias, 20 transfusions in 10 cases. Shock, 1 transfusion in 1 case. In 219 transfusions (21 per cent.) of the series, there occurred from fifteen minutes to one hour later a slight reaction of chill and fever, a temperature of 100 to 105 F., with or without malaise, headache, nausea and vomiting and diarrhea, and followed, in a small percentage of cases, on the third day after the transfusion, by an eruption of herpes. In another 15 per cent. of transfusions there occurred a rise of temperature to 100 F. or above, not associated with chill and nausea. These were, in every instance, of a transitory nature, the temperature returning to normal in from twelve to thirty hours, and in only two instances was it at all probable that the good of the transfusion was vitiated by this complication.

These reactions occur early after the introduction of 50 or 100 cubic centimeters of blood; the patient first complaining of tingling pains shooting over the body, and a fulness in the head and an oppressive feeling about the percordium, and, later, an excruciating pain localized in the lumbar region. Slowly but perceptibly the face becomes suffused, a dark red to a cyanotic hue; respiration becomes somewhat labored, and the pulse rate, at first slow, sometimes suddenly drops as many as 20 to 30 beats a minute. The patient may lose consciousness for a few minutes. In one half of the cases an urticarial eruption, generalized over the body or limited to the face, appeared along with these symptoms. Later, the pulse may become very rapid and thready; the skin becomes cold and clammy, and the patient's condition is grave. In from fifteen minutes to an hour, a chill occurs, followed by high fever, a temperature of 103 to 105 F., in which the patient may become delirious. Jaundice may appear later. The macroscopic appearance of hemoglobinuria is almost constant. In three such instances the symptoms were not recognized at the time of the transfusion, and 500 cubic centimeters of blood were injected. All the patients died, two in one and three hours, respectively, following the transfusion, and one became comatose shortly afterward and died thirty hours later. In the other nine instances the symptoms were early recognized and interpreted, and the transfusion was concluded after the injection of 50 to 100 cubic centimeters of blood. Epinephrin and atropin were administered with good effect. There was no mortality in this group.

The cases point out most strikingly the fact that the injection of incompatible blood, namely, in which the donor's cells are agglutinable by the serum of the patient, is attended by the development of symptoms of the gravest nature, and that if these are not early recognized and the transfusion concluded before the injection of a large quantity of blood, fatal results are to be expected.

Cutaneous Neoplasms.—Cutaneous neoplasms are divided into three groups by Van Beuren: (1) those on the skin; (2) those in the skin, and (3) those beneath the skin. He advises that every new growth of the skin should be excised as soon as one can decide that it is a new growth. That if any suspicion of present malignancy is entertained and local excision is thought adequate, a much wider incision of the tumor should be planned than has commonly been practiced in the past.

Postoperative Pneumonitis.—At the New York Presbyterian Hospital during 1917, out of 1,940 operations there were sixty-five cases of postoperative pneumonia, a morbidity percentage of 3.3. Cleveland found that amount the predisposing factors of postoperative pneumonia are: (*a*) coughs, colds, etc., previous to or on admission to the hospital; exposure to cold while in the hospital; (*b*) condition of the patient; (*c*) type of operation; (*d*) anesthesia. Eighty-six per cent. of the operations performed in this series were celiotomies, and a majority of these were of a relatively simple nature, such as hernia repair and removal of simple appendix. Although the gas-ether sequence, closed method, anesthesia was followed by forty-four cases, Cleveland points out that the anesthetic per se does not cause the pneumonia, a statement which is no longer doubted. The irritation of the anesthetic does, however, prepare the way for organisms already present in the upper respiratory tract by lowering the resistance of the lung tissue. Roentgenography was employed as an aid to diagnosis in fifty-six out of sixty-five cases.

There were seven deaths in the sixty-five patients, making the mortality 10.7 per cent. No one of these occurred where the pneumonia was the only complication; in other words, no otherwise healthy patient undergoing operation died as a result of his pneumonia. Malignancy claimed three patients, one with carcinoma of the colon, another with carcinoma of the esophagus and a third with carcinoma of the cystic duct. All of these were in very poor condition. A pulmonary embolus caused one death. Another patient died in a diabetic coma following incision and drainage of an alveolar abscess. A mastectomy in a patient 65 years of age, not in very good condition, resulted in a fatal pneumonia. The seventh patient died of inanition following a duodenal fistula rather than from the pneumonia. Two other patients died in the hospital; one, a paraplegia with a positive blood culture, died of sepsis six weeks after the embolic pneumonia had subsided; the other died over a month after his pneumonia and from no associated condition.

Omentopexy in Cirrhosis of Liver.—Omentopexy was done in twenty-three cases of cirrhosis of the liver. Eighteen cases were due to excessive use of alcohol; two to syphilis; cause unknown in one case and in two the ascites was associated with an enlarged liver secondary to cardiovascular disease. In one of these last-mentioned cases the patient died of acute cardiac dilatation directly after the operation. The other, three years after operation, is still alive and greatly improved.

Incompetency of Ureterovesical Valves.—Hepburn reports a case which he believes supports the theory of inflammatory infiltration as a cause of ureterovesical valvular incompetency; the inflammation apparently started in the bladder instead of in the kidneys.

Operation for Production of Sterility.—Cupler divides the tube and turns back a peritoneal cuff on the proximal end. The denuded muscle and mocosa are crushed in the bite of an angiotribe. A catgut ligature is applied in the crease, the cuff is brought over and a ligature is applied. The distal end of the tube is ligated, and both ends approximated and the rent in the broad ligament is closed.

Excluding Septic End of Bowel During Intestinal Resection.—Farr turns a rubber glove inside out over the divided bowel, this keeping it out of the field.

Peritoneal Drainage.—Heald uses a double caliber glass tube with movable gauze wick. The double tube is one-half inch in (outside) diameter. The lower end is closed, except for an oval opening one-eighth inch from the lower end on each side, and a small opening in the bottom. The longitudinal septum extends to one-fourth inch from the lower end. One end of a gauze wick, 1 inch wide and several yards long, is inserted in the upper end of one "barrel," and is pushed down its lumen to the lower end with a small probe, pulled out of the opening in the bottom, the end is reinserted through this opening and pushed up through the other "barrel," passing around the smooth lower end of the septum. The tube, threaded with the wick, is inserted to the bottom of the cavity, and the wound is closed completely around it. The tube should be long enough to project above the dressings, which are covered and protected by a sheet of rubber dam, through a small stretched opening in which the tube has been passed previously. The roll of sterile gauze wick in a cloth bag is pinned outside the dressings and covered with a sterile towel. During the first twenty-four hours, at more or less frequent intervals, depending on the quantity of purulent secretion, the nurse, with sterile gloved hands, steadies the tube with one hands, pulls the wick through with the other until it comes through dry, cuts off and removes the soiled portion, and replaces the sterile towel, without having disturbed the patient. After twenty-four hours the tube, having served its purpose, is removed, and replaced by a small "cigaret," or by any form of drain the surgeon may prefer. The method is used in the drainage of any cavity where dependent drainage is impracticable, but in peritoneal infections from perforations, it will probably be found most useful.

Inguinal Herniotomy.—Pitzman's suggestion in technic is simply to insert the mattress sutures for the repair of the abdominal wall, while the peritoneal cavity is still open.

Tennessee State Medical Association Journal, Nashville

February, 1919, **11**, No. 10

Epidemiologic Study of Recent Outbreak of Influenza in Nashville. R. C. Derivaux, U. S. P. H. S., and W. E. Hibbett, Nashville.—p. 364.
Social Evil. C. A. Abernathy, Pulaski.—p. 371.
Clergyman and Physician—Some Thoughts on Revealed and Natural Religion. G. R. West, Chattanooga.—p. 375.
Statistics of Epidemic of Influenza in New York City. W. H. Guilfoy, New York City.—p. 379.
Influenza Epidemic. W. L. Somerset, New York City.—p. 383.
Scientific Medicine: What It Is, and What It Is Not. E. Linton, Washington.—p. 385.

Texas State Journal of Medicine, Fort Worth

February, 1919, **14**, No. 10

Interrelationship Between Ovarian Secretion and Uterus. F. C. Floeckinger, Taylor, Tex.—p. 322.
Dementia Praecox. R. E. Cloud, Austin.—p. 325.
Nervous and Mental Strain. T. L. Moody, San Antonio.—p. 327.
"Razor-Strop Pain" and "Hair-Dressing Pain" (Tonsillar): Common Cause of Shoulder Disability. H. B. Decherd, Dallas.—p. 329.

United States Naval and Medical Bulletin, Washington, D. C.

January, 1919, Special Number

*Report on Medical and Surgical Developments of the War. W. S. Bainbridge.

The following subjects are contained in this report: Treatment of war wounds by the Allies and by the Germans; developments in war surgery; trench fever; care of wounded from firing line to convalescent camp; reeducation for disabled; modern treatment of burns; plans for surgical evacuation hospital formation; proposed organization of educational service in war surgery; plan for surgical sanitary formations; technical instructions for impending military activities; base hospitalization and surgical measures for attacking army corps; cartilaginous cranioplastics (Chutro).

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

Feb. 15, 1919, **2**, No. 3033

*Pathogenesis of Deficiency Disease. R. McCarrison.—p. 177.
Placenta Previa. H. Briggs.—p. 179.
*Prevention of Posterior Bowing in Compound Fracture of Femur. C. B. Alexander.—p. 180.
Delayed Primary Suture of Wounds. H. H. Hepburn.—p. 181.
Detection of Saccharosuria, Inosituria and Lactosuria by Mycologic Method. A. Castellani, and F. E. Taylor.—p. 183.

Pathogenesis of Deficiency Disease.—The conclusions reached by McCarrison as a result of his clinical, anatomic, histologic and bacteriologic observations may be summarized as follows: The absence of certain accessory food factors from the dietary—improperly termed "antineuritic"—leads not only to functional and degenerative changes in the central nervous system, but to similar changes in every organ and tissue of the body. The morbid state to which their absence gives rise is not a neuritis. The symptom complex resulting from the absence of these substances is due (*a*) to a chronic inanition; (*b*) to derangement of function of the organs of digestion and assimilation; (*c*) to disordered endocrine function; (*d*) to malnutrition of the nervous system, and (*e*) to hypersuprarenalinemia. Certain organs undergo hypertrophy; others atrophy. Edema has invariably (100 per cent.) been associated with great hypertrophy of the suprarenal glands, while 85 per cent. of all patients having great amount of epinephrin in such patients as determined by physiologic methods, has been considerably in excess of that found in cases not presenting this symptom, and greatly in excess of that found in normal suprarenals. Inanition gives rise to a similar state of suprarenal hypertrophy, and to a similar state of atrophy of other organs, the brain excepted. The edema of inanition and of beriberi is believed to be initiated by the increased intracapillary pressure which results from the increased production of epinephrin, acting in association with malnutrition of the tissues. Gastric, intestinal, biliary and pancreatic insufficiency are important consequences of a dietary too rich in starch and too poor in "vitamines" and other essential constituents of food.

It is suggested by McCarrison that some of the obscure metabolic disorders of childhood might be examined from this viewpoint as well as from that of endocrine gland starvation. A state of acidosis results from the absence of so-called "antineuritic vitamins." Great atrophy of muscular tissue results from deficiency of accessory food factors. Profound atrophy of the reproductive organs is an important consequence of the "vitaminic" deficiency. The central nervous system atrophies little: paralytic symptoms, when they occur, are due mainly to impaired functional activity of nerve cells; much more rarely to their degeneration. It is thought that, because of their atrophy out of all proportion to other tissues, the thymus, the testicles, the ovary and the spleen provide a reserve of accessory food factors for use on occasions of metabolic stress. This reserve, however, is rapidly exhausted. The bones are thinned, and there is a loss of bone marrow. The red cells of the blood are diminished by about 20 per cent. The whole morbid process is believed to be the result of nuclear starvation of all tissue cells. Infections and parasitic agencies are often important causes in determining the onset of symptoms. "Vitaminic" deficiency renders the body very liable to be overrun by the rank growth of bacteria.

Prevention of Posterior Bowing in Compound Fracture of Femur.—Alexander has devised a splint suitable for all fractures in the lower two thirds of the femur. In effect it is a double Thomas bed knee splint, an outer and an inner. The outer is the ordinary Thomas splint, and to its end the extension is fixed in the usual way. At the junction of the ring with the inner bar, and at the same level on the outer bar, is a pivot, to which is attached another—the inner Thomas splint (minus its ring): it fits easily within the outer, and is bent 4 inches from its lower end, so as to raise the whole off the bed. By raising the outer splint by its end the patient's

thigh and leg are also raised, but the inner splint turning on the pivots remains resting on the bed.

Glasgow Medical Journal

February, 1919, **91**, No. 2

Diagnosis and Treatment of Syphilis. H. C. Donald.—p. 65.
Self-Revelation. J. I. Robertson.—p. 73.
*Influence of Cerebral Symptoms on Prognosis in Pneumonia in Childhood. M. Putnam.—p. 84.

Influence of Cerebral Symptoms on Prognosis in Pneumonia.—The total number of cases of lobar and primary bronchopneumonia studied by Putnam was 120, with a mortality of 26, or 21.6 per cent. Nineteen, or 16 per cent. of the children, presented early cerebral symptoms, with two deaths, giving a mortality rate of 10 per cent., and of these only five demonstrated tetany. Six patients suffered from late cerebral symptoms with four deaths, or a mortality rate of 66 per cent.; of these four fatal cases three had pneumococcal meningitis. It is thus seen, first, that late cerebral symptoms are of much more serious import than early cerebral symptoms; second, that the mortality rate in cases with early cerebral symptoms is decidedly lower than that in the disease in children generally; and, third, that tetany could only be cited as a cause of the early cerebral manifestations in slightly over 26 per cent.

Lancet, London

Feb. 15, 1919, **2**, No. 4981

Surgery of Spinal Cord in Peace and War. A. J. Walton.—p. 243.
*Treatment of Gunshot Wounds with Acriflavine Paste. A. H. Tubby, G. R. Livingston and J. W. Mackie.—p. 251.
Treatment of Trench Fever by Intravenous Injection of Collargol. J. E. Sweet and H. B. Wilmer.—p. 252.
Adhesions of Sigmoid Associated with Congenital Abnormality of Mesentery Causing Constipation. J. P. L. Mummery and D. Pennington.—p. 254.
*Resorcin Swab in Whooping Cough Cases. N. Macleod.—p. 254.
Biology and Medical Curriculum. T. G. Hill.—p. 173.
Acute Erythema Resembling Measles. F. H. Kelly.—p. 255.
Formalin Spray in Checking Influenza at German Prisoners Camp, Isleworth. A. Wylie.—p. 256.

Treatment of Gunshot Wounds with Acriflavine Paste.—The paste used by the authors consists of bismuth carbonate, 25 per cent.; paraffin, 75 per cent.; acriflavine, 0.5 per cent. This paste was used in place of "bipp," and, it is believed, with better results.

Resorcin Swab Treatment of Whooping Cough.—Macleod swabs the pharynx with a 2 per cent. solution of resorcin in glycerin and water, 1 and 12 parts, respectively.

Quarterly Journal of Medicine, Oxford, England

October, 1918, and January, 1919, **12**, Nos. 45 and 46

*Spleen and Leukocytes in Trench Fever. D. L. Tate and J. W. MacLeod.—p. 1.
*Pathogenesis of Diphtheritic Paralysis. II. Paralysis of Faucial and Extra-Faucial Diphtheria Following Skin and Wound Infections. F. M. R. Walshe.—p. 14.
*Id. III. Central Nervous System Lesion Underlying Local Paralyses. F. M. R. Walshe.—p. 32.
*Respiration and Oxyhemoglobin Dissociation Curves and Buffer Value of Blood in Normal Men. L. S. Debenham and E. P. Poulton.—p. 38.
*Vomiting in Pregnancy. W. Gilliatt and E. L. Kennaway.—p. 61.
Case of Methemoglobinemia or Sulph-Hemoglobinemia. R. A. Jamieson.—p. 81.
*Acute Infective Polyneuritis. I. Clinical Phenomena of Disease in Man. II. Morbid Anatomy of Disease in Man and Monkey, Together with Experimental Production of Disease in Monkey. III. Isolation and Culture of Virus of Disease. J. B. Bradford, E. F. Bashford and J. A. Wilson.—p. 88.
Massive Collapse of Lung as Result of Gunshot Wounds; Wounds of Chest. J. R. Bradford.—p. 127.

Spleen and Leukocytes in Trench Fever.—A palpable spleen was detected by Tate and MacLeod in 15 per cent. of the cases of trench fever observed by them. Total and differential leukocyte counts were made by the authors in twenty-seven cases of trench fever. Twenty-four counts were made on patients during pyrexia, and the average total count was 10,766. Eleven counts were made in apyrexia, giving an average total of 10,283 leukocytes.

Pathogenesis of Diphtheritic Paralysis Following Skin and Wound Infections.—Examination made by Walshe of a series of cases of diphtheritic paralysis following faucial and extra-faucial (wound and cutaneous) infections showed that palatal paralysis does not occur, except after faucial diphtheria. In extrafaucial diphtheria the paralysis often shows (27 per cent.) an onset anatomically related to the infective focus. Polyneuritis follows both faucial and extrafaucial diphtheria equally, and, irrespective of the site of the infective focus, presents a remarkably constant symptom complex. Paralysis of accommodation also follows both forms of infection, though the faucial more frequently (86 per cent.) than the extra-faucial (33 per cent.). It is, therefore, not a "local" paralysis, and its more constant association with faucial infections may be explained by the close proximity of the local central nervous system lesion in this case to the oculomotor nuclei. The palatal paralysis constitutes the "local," the ocular affection the "specific," and the polyneuritis the "generalized" forms of diphtheritic paralysis. In extrafaucial diphtheria, as in tetanus, the "local" paralysis varies with the site of the infective focus.

As for the pathologic processes underlying this symptom-complex, it seems highly probable that the local paralysis is an "ascending lymphogenous toxi-infection" (by the perineural lymphatics) of the central nervous system from the infective focus. The essential pathologic lesion here is central and not peripheral, and is situated in the nuclear complex already described. The ocular and generalized symptoms are probably the result of the circulation of the toxin in the blood stream, whence it gains access to the whole nervous system, central and peripheral. The essential nervous lesion here is probably both central and peripheral.

Respiration and Oxyhemoglobin Dissociation Curves.—The pulmonary ventilation, alveolar CO_2, alveolar ventilation, tidal air, dead space, and respiratory exchange were measured by Debenham and Poulton in ten normal men at rest in bed. The methods described by Haldane and Priestly, and by Hasselbalch and Lindhard, for measuring the alveolar CO_2 have been compared, and show satisfactory agreement. Values for K (the constant of the oxyhemoglobin dissociation curve) at the alveolar CO_2 pressure have been determined in eleven normal men, and agree with values previously published. Results for the buffer value of normal blood are given. The buffer value of blood in states of acidosis is considered.

Increased Acetone Production in Vomiting in Pregnancy.—Three cases are recorded by Gilliatt and Kennaway in which the examination of urine was found to be of some empirical value. It is noteworthy that two of the patients were Jewesses, and the only fatal case of vomiting of pregnancy in the records of the Middlesex Hospital for the last ten years was a Jewess. There was a history of the occurrence of vomiting in previous pregnancies in each patient. The authors point out that in some forms of pernicious vomiting a stage is reached when the ammonia index shows a rapid increase in the course of a few days to values between 30 and 50; at this time the acetone bodies are being produced in large amounts. The changes observed seem too great and sudden to be the result of starvation alone. When this condition appears, abortion seems to be the only treatment which is of any avail, and rapid improvement is to be expected from it in the great majority of cases. Attention is drawn to the great scarcity in the literature of adequate analyses of the urine in this disease, especially in regard to the output of acetone bodies.

Acute Infective Polyneuritis.—It is held by Bradford and his associates that so-called acute febrile polyneuritis is a very definite entity, capable of being separated clinically from other diseases of the nervous system. It is a diffuse affection of the nervous system affecting the spinal cord, spinal ganglia, and peripheral nerves, with but a slight incidence on the cortex. The lesion is essentially one affecting the nerve elements, cells, and fibers. The malady can be transmitted experimentally from man to the monkey, and the characteristic lesions reproduced in the experimental animal. A living virus can be shown to be present, both in the human cases and in the inoculated monkeys. The clinical and pathologic features of the disease have been reproduced in monkeys

by the subdural inoculation of the emulsion of human cord preserved from twenty-five days to seven months in glycerin, and also by direct inoculation from monkey to monkey of emulsion of the fresh cord or of cord preserved in glycerin and, moreover, by the inoculation of the pure culture. These facts, together with the apparently definite incubation period of from five to six weeks, lead the authors to the conclusion that this is a specific infective disease of a gradually ascending nature from the nerves to the entire nervous system. Pathologically, it appears to be distinguishable from acute anterior poliomyelitis, although closely allied to it, and suggesting that this term and those applied to other hitherto obscure diseases of the nervous system (Landry's paralysis, acute ascending paralysis, polioencephalitis, and yet others) may ultimately be found to cover or be overlapping designations for a group of closely allied and infective diseases of the central nervous system.

Archives Médicales Belges, Paris

November, 1918, **71**, No. 11

*Maintaining the Balance in the Circulation after Wounds of Vessels. P. Derache, J. Voncken and others.—p. 489.
*Sequels of War Abdominal Wounds. M. Stassen.—p. 507.
*Tube Casts in Urine. H. Denoncin and L. Gillet.—p. 523.
*Earning Capacity with Traumatic Cataract. E. Rasquin.—p. 527.
*The Question of Rheumatism. F. John Poynton.—p. 533.
Radiography of Normal Spine in Different Positions. A. de Marneffe.—p. 541.

Necessity for Maintaining the Balance in the Circulation.—Derache and his co-workers had occasion to ligate an artery or vein or both in forty-eight among their 7,914 cases of war wounds of vessels in different Belgian hospitals. They refer only to cases of definite ligation when there is no other chance of arresting the tendency to secondary hemorrhage. They say that the ligature should always be supervised with extreme vigilance as infection is liable to intervene; the wound itself and the temperature curve must be carefully watched. It is advisable to bury both stumps of the artery in muscle tissue as an extra precautionary measure; adhesions may then form with solid cicatricial tissue, reenforcing the other measures. After ligation of an artery, the blood passes on its way through collateral branches and these pass the blood on into the vein and into the venous collaterals. The balance of the circulation, the balance between the arterial and venous flow, is thus upset, and nothing happens to remedy it as there is no stimulus for formation of new venous collaterals. Therefore they advise as an indispensable complement of ligation of an artery that the vein should be ligated at the same time. By this means, as the arterial collaterals develop and enlarge from the extra functioning, the venous collaterals develop and enlarge to correspond, and the balance in the circulation is maintained. Whatever the injury of the blood vessels, when ligation is required, the vein must be ligated along with the artery. The obstacle to the passage of the venous blood favors the nourishment of the region, as the blood is kept longer in contact with it, and the tension of the blood is increased. The passage of the blood is thus in accordance with the normal balance between the arteries and the veins, and the arterial blood is not drained away too rapidly by aspiration into the main vein.

Sequels of Abdominal Wounds.—Stassen emphasizes that even after a man wounded in the abdomen has weathered the cape of the evacuation hospital and is apparently entirely cured, yet he is by no means out of danger. It is only exceptionally that full physical capacity is regained. His observation of five war *laparotomisés* with an interval since of three years, seventeen with two years and eight for more than one year has demonstrated that eventration, visceroptosis, disturbance from adhesions and the flaring up of a latent chronic peritonitis lie in wait for these men, and it is rarely that they escape one or more of these. In 10 per cent. an emergency laparotomy has been required since, and nearly 33 per cent. have eventration. Four cases showing the different types of secondary disturbances are related, and the degree of incapacity for each type is evaluated. Among his thirty cases, twenty had to be trained in a new trade or business, one that would make less physical demands on the abdominal wall than the man's former occupation. The new trades were in leather working, mechanical drawing, printing, electricity and wireless telegraphy, furrier, tailor or domestic servant.

Tube Casts.—Denoncin and Gillet affirm that tube casts are usually of greater import for diagnosis and prognosis than the albumin in the urine. They may occur before any albumin appears, and they may outlast the albuminuria. Tube casts, especially epithelial casts, are a more constant sign than albumin of injury of the kidney in the course of infectious disease or chronic interstitial nephritis. The quantity of the casts is also an index of the severity of the disease or toxic action affecting the kidneys. They insist that the tube casts should be investigated as well as the albumin in the urine before attempting treatment with arsphenamin or vaccines.

Traumatic Cataract.—Rasquin remarks that traumatic cataract in soldiers has often become spontaneously corrected, but when resorption is not complete he advises intervention. The evaluation from an industrial standpoint is the same as for aphakia. In any event, the evaluation done soon after the accident requires correction by a reexamination later.

Rheumatism.—Poynton declares that the study of heart disease should begin with the study of the infectious disease in childhood responsible for the heart lesions, before cicatricial changes have become definitely established. We cannot cure them when once developed, but cannot we do more to prevent their developing? He has been able to induce in animals, with streptodiplococci isolated from cases of acute articular rheumatism, not only multiple arthritis but pericarditis and endocarditis, not once but many times and with different species of animals. With acute rheumatism in children, the character of the food does not seem to have much influence; cold and dampness do not induce the disease but may predispose to it, and may render its course chronic and incurable.

Bulletin de l'Académie de Médecine, Paris

Jan. 21, 1919, **81**, No. 3

Influenza in Albania. G. Heuyer and P. Caillé.—p. 58.
*Pseudodiphtheria Bacilli. L. Martin and G. Loiseau.—p. 73.
*Herxheimer Reaction to Quinin in Malaria. Autric.—p. 78.
*Fly Killers. G. Boyé and R. Guyot.—p. 80.
*Caries of Upper Incisors. L. Dubreuil-Chambardel.—p. 84.
General Procain Anesthesia by Intraspinal Injection. Riche.—p. 86.

False Diphtheria Bacilli.—Martin and Loiseau acknowledge that when there are false membranes in the throat it is of little import whether the bacilli are of the true or false diphtheria bacilli type. But when it is a question of carriers, then it is extremely important to distinguish between the dangerous and the harmless bacilli. The false diphtheria bacilli do not kill guinea-pigs, do not produce toxins, and do not induce production of an antiserum. They grow only on the surface of the culture medium, and they do not turn it red as does the true diphtheria bacillus when the medium is tinted blue with litmus. Martin and Loiseau use test tubes 6 cm. deep, partly filling them with a 30 per thousand gelose. Then 3 gm. of glucose is dissolved in 200 c.c. of distilled water and 30 c.c. of tincture of litmus is added. The gelose is liquefied by boiling, then cooled to 50 C., and 5 c.c. of the litmus-glucose solution, after filtering through a candle, is added to the test tube and agitated till well mixed, after heating to about 50 C. The tubes thus prepared are tested for their sterility by keeping at 37 C. for twenty-four hours. The tube is then heated in the water bath and cooled to 50 C. and then inoculated with the broth emulsion of the bacilli to be tested, taken from a well isolated serum colony. By the eighteenth hour the tubes with true diphtheria bacilli have turned red, and colones can be seen throughout the depths of the tube, nothing on the surface. With the pseudodiphtheria bacilli, there are numerous colonies on or close to the surface, none in the depths, and the tint persists blue.

Herxheimer Reaction from Quinin in Malaria.—Autric relates two cases of malaria dragging along for several months in which the severe daily febrile attacks stopped immediately when all quinin was suspended. In one case the attacks did not return at all; in the other not until after

five days. He explains such phenomena as a kind of Herxheimer reaction, and warns to be on the lookout for it. He is the médecin principal of the navy, and his experience at Madagascar and elsewhere has convinced him that the graver the form of malaria, the more cautious we must be in administering quinin.

Fly Killers.—Boyé and Guyot describe extensive research on ways and means to abate the fly nuisance. The practical conclusions are that castor oil and arsenic are the best fly killers. Castor oil containing a little sugar attracts the flies, and they die in and around it. Its action is enhanced by adding 20 drops of croton oil to 30 gm. of the castor oil. The fly dies almost instantly, while the oil is not dangerous for man. The odor of sugar and the odor of decomposing milk, flesh, or blood, seem to attract flies most powerfully.

Caries of Upper Incisors.—Chambardel calls attention to a form of caries which seems to attack simultaneously the four incisors in the upper jaw. He has encountered forty cases, all beginning at about the age of 14. There seems to be some anatomic deficiency in the bone rendering this group of teeth less resistant.

Jan. 28, 1919, **81**, No. 4

*Surgery on Children. E. Kirmisson.—p. 91.
Pfeiffer Bacillus Bronchopneumonia. P. Menetrier.—p. 99.
*Prevalence of Rabies in France. H. Martel.—p. 108.
*Public Health During German Occupation. A. Calmette.—p. 120.
*Bone Grafts. P. Mauclaire.—p. 126.

Operations on Children.—Kirmisson emphasizes the different character of surgery on children during the different periods of childhood, that is, under 5, between 5 and 13, and from 13 to 15. His statements are the results of his experience as the incumbent of the chair of children's surgery, founded for him in 1901. Among the points to which he calls special attention is the predominance of invagination of the bowel in infants, usually breast fed and well nourished. This should be suspected whenever in the midst of good general health an infant presents signs of occlusion of the bowel with bloody mucus in the stools. Strangulated hernia is rare in children over 5 but he has had 118 cases in children younger than this; nearly 50 per cent. were in infants less than a year old, including several less than a month old. The strangulation is unmistakably due to spasm, as also the invagination of the bowel in nurslings.

Another special feature of surgery on children is the predominance of fractures of the legs, instead of fractures of the arms, in younger children. In infants learning to walk the femur fractures with remarkable ease. Evidently muscular contraction is a factor, as the fracture occurs almost always in the middle portion of the bone, where the drag of the muscles tends to exaggerate the normal curve of the femur. Although the knee did not suffer from the traumatism, an effusion develops in it—an important aid in the diagnosis of fracture of the femur in an infant. In six recent years he had seventy-six cases of fracture of the femur in children under 5, and nineteen in children above this age, with sixty fractures of the femur and 108 of the arm in children over 5.

This same predominance of the femur in children under 5 is equally noticeable with osteomyelitis. The femur was affected five times more often than the tibia in children under 5 (twenty-one to four), while in older children the tibia was involved in forty-three and the femur in only thirty-two. In infants, the soft parts of the thigh are so thick in comparison to the bone that osteomyelitis of the femur is revealed only by a little swelling and may long escape detection. In older children the staphylococcus is generally responsible for the osteomyelitis, while in infants the streptococcus is more often to be incriminated, especially in the large abscesses in the shoulders and thighs of infants. In the thigh they may entail dislocation and this may suggest a congenital luxation when seen later unless the discovery of some small scar on the thigh or gluteal region gives the clue to the diagnosis.

Surgical tuberculosis in infants is generally superficial, restricted to the skin, as if the tubercle bacilli had been sown over the surface of the body. Hence result the glandular lesions in the neck, the diffuse lesions of the bones of the face and skull, and the multiple and symmetrical lesions of the small long bones of the hand and foot. It is in infants, moreover, that we more often meet with tuberculous lesions of the testicle. French clinicians seem to be unanimous on this point, and Kirmisson's experience has confirmed it. Malignant tumors in children over 5 are of the osteosarcoma type as a rule. But it is in infants that we find cancer of the eye, glioma of the retina, and cancer of the testicle or kidney. He warns that hematuria very seldom occurs with cancer of the kidney. The latter may be developing for a long time before any functional disturbance calls attention to it.

The surgical affections of children from 13 to 15 are mainly those affecting the locomotor apparatus, scoliosis, genu valgum, valgus flat foot and coxa vara. These may be encountered also in children under 5 but they have special characteristics in adolescents. The pain and contractures with valgus flat foot—*tarsalgie des adolescents*—do not seem to be ever encountered in children under 5. When a child of 4 or 5 has valgus flat foot, with more or less contracture, it will almost invariably be found to be the manifestation of a tuberculous process in the tarsus. A special feature of these bone deformities in adolescents is the great contrast between the poor and the well-to-do. Among the latter, tarsalgia is extremely rare while it is extremely common among lads just taking up work in trades, obliged to stand many hours at their work, possibly strained besides by carrying loads. They had no symptoms of the kind while they were at school; the tarsalgia first appeared after 13, when the boys left school and went to work. Kirmisson concludes by urging that school attendance should be compulsory till the age of 14, and that the working day should not be over eight hours.

Rabies in Dogs in France.—Martel relates that the strict measures against rabies in Paris resulted in a drop from 846 cases in 1901 to three in 1913. The abandonment of their dogs by refugees and the absence of veterinarians, drawn into the war, have resulted in a recrudescence of rabies. In 1918 there were 411 rabid dogs killed in Paris, and there were four cases of rabies in man, and 350 persons taking the course of treatment at the Pasteur Institute at Paris. The ordinances in regard to keeping dogs muzzled and on a leash are not heeded now by the public, and in 1918 throughout France 1,602 persons were bitten by rabid dogs, cats, cattle or sheep, with seven deaths, while 3,142 cases of rabies in dogs were reported.

Stunting of the Growth of the Young at Lille During the German Occupation.—See Paris Letter, page 742.

Bone Grafts.—Mauclaire has been much gratified at the successful outcome in seven of twenty-three cases in which he implanted a long segment taken from the fibula or other bone to bridge a gap in a long bone. He cuts the ends of the graft pointed and works them into the marrow cavity of the stump above and below. There must be an interval of several months before the grafting operation is attempted after the healing of the wound. If there was suppuration, six months at least must be allowed for the focus to become aseptic. He has compiled 128 grafting operations for war wounds. In nearly every instance an autograft was used, and seventy-two are reported as successful. It is evident, however, that a certain number of unsuccessful cases have not been published. In his own twenty-three cases, conditions were unfavorable in some, the skin very thin, and cicatricial tissue in the depths of the wound not offering very favorable chances for success. Sometimes an Italian grafting operation might prove useful to supply healthy skin under which to place the bone graft. He adds that Ollier's method of bone-periosteum grafts are of easier application. This technic was applied by the Japanese during their war with Russia in 1908. In the present war, Delagenière and Dujarrier have reported a number of successful cases with it. In one case Mauclaire surrounded the segment graft with a flap of bone-periosteum graft, thus combining the two methods. He gives an illustration of one case kept under roentgen supervision for two years. The bone segment did not become devitalized; it is living, and it has become very much hypertrophied. The graft was implanted to repair a loss of substance in the tibia; it has kept its shape and has not become porous. In another case the graft implanted in the radius became

atrophied and deformed by the end of the second year. Probably the nourishment of the bone was defective.

Journal de Médecine de Bordeaux

Jan. 15, 1919, **90**, No. 1

Case of Abscess in Lung. Creyx.—p. 3.
*Spinal Anesthesia. H. L. Rocher.—p. 5.
*Osteosynthesis. Charbonnel.—p. 8.
*Training Troops to Walk in Water. P. Nadal.—p. 14.

Spinal Anesthesia.—Rocher has applied this method of anesthesia in 250 cases of war wounds and extols its advantages when lesions in the air passages render inhalation anesthesia inadvisable. It is ideal when, for other reasons, the patient is compelled to lie prone, and when extreme relaxation of muscles is desirable. It has been his experience that it reduces the shock with long or difficult operations, but in four cases he witnessed severe nervous shock come on from five to fifteen minutes after the anesthesia, but these men had grave septicemia or gas gangrene. This renders this technic dubious when the infection or intoxication is exceptionally severe. He reviews his experiences and the technic in detail, including eighty-seven peace time operations and 163 after war wounds.

Osteosynthesis.—Charbonnel comments on the increasing vogue of osteosynthesis as the danger of opening up a closed fracture does not exist with war wounds, as they are all compound fractures. The aim is to reconstruct the bone out of the fragments, fitting them into place as perfectly as possible and binding the whole into a sheaf by tying a wire around them. This prevents fragments of bone being pulled out of place by contraction of muscles. Fourteen cases of primary osteosynthesis are described to show its advantages, and he discusses further the field of early secondary osteosynthesis and of the same done tardily for old fractures, defective consolidation, and pseudarthrosis with or without suppuration.

Walking in Water.—Nadal urges training soldiers to walk through a running stream and walk entirely submerged for certain stretches. With a little training, he says, troops can thus accomplish the crossing of a river over 90 feet wide and not much over 9 feet deep, each carrying a load weighing from 66 to 88 pounds.

Paris Médical

Jan. 25, 1919, **9**, No. 4

*Nephritis with Inherited Syphilis. V. Hutinel.—p. 65.
Trench Fever. Baudouin.—p. 73.
Autochthonus Balantidian Dysentery. Weil and Bergouiguan.—p. 76.

Nephritis with Inherited Syphilis.—Hutinel warns that mercury does not seem advisable in treatment of the nephritis with inherited syphilis. He has even witnessed hematuria follow mercuric inunctions, and consequently he refrains from mercury in treatment of nephritis with suspected inherited syphilis. Intravenous injection of an arsphenamin preparation is now his procedure. The diuresis increases and the general condition improves, but we must not expect rapid improvement or a definite cure. These can be counted on only when treatment is begun in the early stage, while generally the nephritis is far advanced and cicatricial tissue has formed at some points. However, the nature of the syphilitic affection in these cases, restricted to circumscribed regions, allows better hopes of a cure than with ordinary nephritis. In any event, the kidneys should be spared as much as possible. The inconsiderate use of excessive quantities of salt and nitrogenous foods is liable to bring exacerbations. This was evidently responsible for the successive outbreaks of symptoms in some of the cases he describes. The nephritis was of an acute type in several, including an infant of 19 months and boy of over 4. Examples of the chronic form are also described in a boy and girl of 11 and 13, and a man of 50. In some other cases in this group the chronic nephritis first became manifest after purpura or mumps or infection with tuberculosis. The nephritis does not assume any special type; in fact, the condition is not so much nephritis as it is that the renal reactions are modified by the specific infection. The kidney symptoms develop after such slight causes that we hesitate to incriminate them, a little redness in the throat, an intestinal affection or mild purpura or influenza. The fact that the kidney develops symptoms testifies to a special lack of resisting power. The albuminuria is usually out of all proportion to the functional disturbances; there is little tendency to edema and the blood plasma is nearly normal. Hematuria is not so frequent as in tuberculosis, but the tendency to relapse is the same, and hemoglobinuria is not rare. The nephritis passes into a chronic phase by successive *poussées*. Uremic manifestations are rare and tardy. Treatment of an underlying inherited syphilis may have a very favorable action on kidney disorders in children in particular.

Presse Médicale, Paris

Jan. 27, 1919, **27**, No. 5

*Trigeminal Paralysis. L. Testut and L. Marchand.—p. 37.
*Military Service After Wounds of Brain. Laignel-Lavastine.—p. 38.
Voltaic Vertigo with Skull Wounds. R. Dubois and A. Hanns.—p. 40.
*Precision with Wassermann Reaction. Mathis and Labougle.—p. 41.
*Prolonged Use of Heart Tonics. G. Galli.—p. 43.

Trigeminal Paralysis.—In Testut and Marchand's case the paralysis involved both the sensory and the motor trigeminal fibers. It was a sequel of cerebrospinal meningitis. The young man first noticed that something was wrong when he found that he was cutting himself constantly when he shaved the right side of his face. The progressive paralysis of the muscles of mastication and the anesthesia reached their height in eleven months, and then slowly improved to some extent. He also has attacks of pain at times, spreading to the back of the neck and the occipital region.

After Wounds of the Brain.—Laignel-Lavastine discusses different types of what may be encountered in men who have been wounded in the brain. He emphasizes the imperative necessity for placing such men in the hands of skilled experts with authority to keep the case for the treatment deemed desirable, and to determine his return to military service or not, unhampered by red tape. The pure psychoneuroses do not entitle to a discharge from the army.

The Wassermann Reaction.—Mathis and Labougle have slightly modified the technic advocated by Calmette and Massol, as they describe in detail. They laud it as a reliable, easy and precision method. With this more accurate technic, they found the response constantly negative with malaria, leprosy and Vincent's ulceromembranous stomatitis.

Prolonged Use of Heart Tonics.—Galli remarks parenthetically that we are accustomed to take 10 or 15 cg. of caffein in our cup of coffee every day. He does not know of any one who has taken up to 700 gm. of a 10 per cent. solution of tincture of strophanthus in the course of two years except the man of 50 whose case is described. He had mitral insufficiency and hypertrophy of the heart, well compensated, and had been taking 20 drops of the tincture daily for two years, on a physician's prescription. The latter had told him he would have to keep up heart tonics all his life.

Jan. 30, 1919, **27**, No. 6

*Vaccination against the Streptococcus. C. Levaditi.—p. 49.
Retrograde Peristalsis in Colon. P. Lignac.—p. 52.

Vaccination Against the Streptococcus.—Levaditi reviews the experiences with treatment of war wounds with a sensitized autogenous vaccine and also with lipovaccines and ether-sensitized vaccines. The work was done at the Virval Belgian ambulance, in charge of Professor Depage. Six tables are given to show the results in different classes of wounds, and with these different types of vaccines. The efficacy of the vaccine is shown most conclusively, perhaps, by the fact that in wounds of soft parts known to be infected with streptococci and requiring further operative measures, after the vaccine had been given, the wound healed smoothly without infection in 95.5 per cent. of the cases. This success surpasses the 93.5 per cent. successful cases among those known to be free from streptococci. With the vaccine to supplement the other measures, results as satisfactory are obtained with streptococci infection as without it except that healing takes longer. Generally, from twenty to sixty days in the graver cases are required before the wound can be definitely sutured. The dose of vaccine is 0.5 or 1 c.c. injected into the deltoid muscle and repeated every five or six days on

alternate sides. The twenty-four hours broth culture of hemolytic streptococci is centrifuged and the sediment, in suspension in 10 c.c. of isotonic salt solution, is mixed with 4 c.c. of a mixture of ether and chloroform in equal parts. After twelve hours the ether-chloroform is decanted, and the suspension of the microbes is mixed with 4 c.c. of antistreptococcus serum. After four hours of contact at 38 C. the whole is centrifuged and the sediment is suspended in 10 c.c. of saline. After testing for sterility, it is injectable in the dose of 0.5 or 1 c.c. The intradermal test proved very instructive, the reaction being found most pronounced in the cases tending to healing, testifying to a vigorous defence on the part of the organism. In the cases of grave septicemic infection there was little or no local response to the intradermal test, hence the response to the test is a useful guide as to when the wound can be safely sutured.

Correspondenz-Blatt für Schweizer Aerzte, Basel

Feb. 1, 1919, **49,** No. 5

*The Lumbago Question. D. Pometta.—p. 129.
Changes in Hair and Nails after Influenza. L. Merian.—p. 139.
Household Surgery in Switzerland. G. A. Wehrli.—p. 144.

Lumbago.—Pometta is chief of the Swiss accident insurance infirmary, and he here discusses some cases of lumbago in which there was a possibility of a traumatic origin. He regards lumbago as of rheumatic nature in the majority of cases, and even those in which a traumatic factor is concerned, are usually "traumatic" only in the medical sense and not from the insurance standpoint. The lumbago, however, usually comes on in a way which convinces the subject that it is of traumatic origin, but the activation of muscles and joints by early resumption of work is of great benefit unless the roentgen rays show actual injury of the bone. There are no objective findings with lumbago as a rule. Hematoma and swelling in the depths of the tissues generally escape detection; when such are found, they indicate a superficial and hence a milder lesion.

Gazzetta degli Ospedali e delle Cliniche, Milan

Jan. 12, 1919, **40,** No. 4

Treatment of Malaria. L. Carmelo.—p. 29.

Jan. 16, 1919, **40,** No. 5

War Fractures of Femur. E. B. Tay.—p. 34.

Riforma Medica, Naples

Jan. 11, 1919, **35,** No. 2

Electric Treatment of Functional Mutism and Aphonia. V. Desogus.—p. 26.
*Gangrene from Gassing. C. Silvan.—p. 28.
*Hematoma in the Ear in the Insane. A. Romano.—p. 30.
Present Status of Intestinal Sutures. E. Aievoli.—p. 32.
After the Victory. A. Ferrannini.—p. 37.
Protection of Motherhood and of Children. G. Tropeano.—p. 38.

Gangrene in the Gassed.—Silvan recapitulates the disturbances in the cardiovascular apparatus that have followed gassing with yperitis, the mustard gas. They include hematuria, gastrorrhagia, cyanosis of the extremities and purpura from the penetration of the toxic gases into the organism. In a case described, ischemic gangrene of the right arm compelled amputation, but the lungs were too badly damaged for recuperation, and the robust man died three weeks after he had been gassed.

Hematomas in the Ears of the Insane.—Romano has compiled seventeen articles dealing with what he calls otohematomas and their frequency in the insane. In a case described, periauricular blood cysts developed, apparently vicariously for an otohematoma, in an insane soldier of 34. These otohematomas are found in the insane with nervous disturbances, vasomotor or bulbar phenomena. They are a sign that recovery is doubtful and recurrence probable as they indicate an unstable vasomotor system.

Feb. 1, 1919, **35,** No. 5

*Malaria, Quinin and Influenza. A. Roccavilla.—p. 85.
The Urine in Influenza. I. Iacono.—p. 88.
Shell Wound of Heart with Recovery. M. Mauro.—p. 89.
*Manifestations in Eye and Skin with Nervous Disease. S. Gavazzeni and A. Jona.—p. 90.
Radiotherapy for the Eyes. N. Scalinci.—p. 92.
*Epidemic Encephalitis. G. Molinari.—p. 93.
Shape and Statics of Stomach. E. Aievoli.—p. 94.

Malaria, Quinin and Influenza.—Roccavilla regards it as significant that only twelve cases of influenza developed among 1,500 malarial patients deeply under the influence of quinin. The disease was exceptionally mild in those affected. He accepts this as testifying to a more or less protective action from the quinin. After the disease is once under way, quinin does not seem to modify it.

Eye and Skin Symptoms in Nervous Disease.—Gavazzeni and Jona noticed in certain cases a monocular divergent strabismus, most pronounced in the spontaneous movements of rotation of the eyeball. Either eye may be affected, and the intensity of the deviation always corresponded to the gravity of the cases in their experience. This symptom was present in 20 per cent. of their cases of nervous disorders bordering on psychoses or with cyclic recurrence. It is important both for diagnosis and prognosis. They also noted in many cases of minor nervous disturbances with a constitutional base, that the abdomen showed a number of spots like freckles, but the surface was slightly verrucous. They were generally grouped in the lowest intercostal space, with some scattered toward the stomach and umbilicus region. They accompanied the neuroses and subsided with them to a certain extent. The writers venture the suggestion that the suprarenals may be responsible for this skin symptom. The persons affected were usually hyposthenic and inclined to lassitude, and the spots became more pronounced during periods of depression.

Epidemic Encephalitis.—Molinari presents the actual status of this subject as it has been studied in France, Uruguay and Great Britain. No definite conclusions are possible as yet.

Rivista Critica di Clinica Medica, Florence

Nov. 23, 1918, **19,** No. 47

Localization of Foreign Bodies by Horizontal Displacement of Tube. E. and E. Pittarelli.—p. 553. Cont'n.

Dec. 21, 1918, **19,** No. 51

*The Food in Austria during the War: Effects of the Restricted Diet. L. Castaldi.—p. 601. Commenced in No. 49, p. 577.

The War Diet in Austria.—Castaldi was long a prisoner of war in Austria, and he made a special study not only of the food of the war prisoners but of the Austrian army and of the civilian population in the different regions he was able to investigate. He found in his own person that the organism adapts itself remarkably to an unaccustomed diet. While at one prison camp, the food averaged only 1,300 calories, as he describes in detail, and he suffered from anemia and reduced capacity for both physical and mental work; his memory in particular became impaired. But when he was transferred to Bistritz he received a total of 1,800 or 1,900 calories daily, and he soon recuperated and reached a stable balance, so that he felt physically normal. With 2,000 calories or a little less, the men in the prison camps kept up vigorous exercise, tennis, football and other sports in the best of health, demonstrating that this ration is sufficient for the ordinary occupations of civilians. Below 1,700 calories, the ration is absolutely insufficient, and the food supplied by the Austrians to their Italian prisoners of war was far below this figure for most of the time.

Cronica Medica, Lima

November, 1918, **35,** No. 665

History of War Surgery in Peru. F. Leon y Leon.—p. 324.
Pathologic Anatomy of the Spleen. O. Hercelles.—p. 339. Conc'n.

December, 1918, **35,** No. 666

*Bronchopulmonary Spirochetosis. R. E. Ribeyro.—p. 351.
Case of Hodgkin's Disease. E. Odriozola.—p. 355.
*Trachoma in Peru. B. Burga.—p. 360.
*Influenza in Rio de Janeiro. E. Escomel.—p. 367.

Bronchopulmonary Spirochetosis.—Ribeyro publishes the second case of this disease known in Peru. The patient was a Japanese of 30 who had been living at Lima for eight years. The presumptive diagnosis had been pulmonary tuber-

culosis, but the microscope showed the sputum swarming with spirochetes and no tubercle bacilli. Fever, cough and bloody sputum developed suddenly but the storm blew over in about a month. By the end of the month only a very few spirochetes could be detected, and there was scarcely any expectoration, the general health becoming satisfactory.

Trachoma in Peru.—Burga's figures give the number of cases of trachoma at the eye infirmary at Lima during the last nine years as ranging from five in 1910 to fourteen in 1916. Almost all the cases are imported. In the four cases during 1914 there was inherited or acquired syphilis in two, tuberculosis in a third, and the fourth man was a miner.

Influenza in Rio de Janeiro.—Escomel was on a visit to Rio when influenza broke out there, the first cases being ascribed to infection from the same steamship from Spain which passed on to Buenos Aires where also the epidemic followed in its wake. Within five days half a million of the people in Rio were affected, and all business and traffic were paralyzed. As the usual supplies from the provinces were thus cut off, there were no meat, milk, eggs or poultry to feed the sick. The schools were turned into hospitals, most of the drug stores closed for lack of drugs and clerks, and the government opened stations for free aid. The convicts in the prisons had to be called on to dig the graves as corpses were brought in such numbers. On one day there were 1,000 deaths. The physicians did heroic work; twenty-seven died within ten days. Of the 200 physicians who gathered at the opening meeting of the Medical Congress to which Escomel had come as a delegate, only thirty-two were present at the closing meeting, the others being sick, but there were no fatalities among the foreign delegates, but unfortunately the same cannot be said of the Brazilian contingent. The offers of the foreign delegates to assist in the hospitals were declined by the authorities. The epidemic seemed to be more deadly the nearer to the equator, growing milder farther south. Even at its height, there were never more than 200 or 300 deaths in one day at Montevideo or Buenos Aires. The epidemic was also milder on the Pacific Coast. In Peru, although there were 5,000 cases at Arequipa, yet few were fatal. Escomel adds that the disease seemed exceptionally virulent at Rio, as was evident by the way it attacked the foreign delegates and the 650 sailors of the U. S. cruiser *Pittsburg* in the harbor, 117 of whom died, according to press reports.

Gaceta Medica de Caracas

Dec. 31, 1918, **25**, No. 24

*Treatment of Leprosy. M. R. Casabó.—p. 261.

Treatment of Leprosy.—Casabó was a delegate from the Venezuela Academy of Medicine on the committee appointed to investigate the claims made by A. Garcia for his method of treating leprosy. As already mentioned in THE JOURNAL, the verdict of the committee was unfavorable.

Medicina Ibera, Madrid

Jan. 4, 1919, **6**, No. 61

Hemianopsia; Three Cases. E. F. Sanz.—p. 1.
*Prolapse of Rectum in Children. A. Sierra.—p. 3.
Case of Choledochotomy plus Cholecystectomy. C. Roe.—p. 3.

Prolapse of Rectum in Children.—Sierra expatiates on the evils of attempting surgical measures of any kind for prolapse of the rectum in children. It occurs only from straining, from diarrhea, from helminths and from disease in the large intestine, and only in children debilitated or naturally delicate. Removal of these causes corrects the tendency to prolapse. In one case recently the prolapse persisted under all treatment until santonin was given. After expulsion of a number of helminths, conditions in the rectum returned to clinically normal. Electricity and local injections of strychnin or ergot are not of much use, but the child should be trained to defecate in a way to reduce the strain on the rectum, lying on the side, if necessary for this.

Jan. 11, 1919, **6**, No. 62

Nephritis. S. Pascual.—p. 21. To be cont'd.
*Hysteric Bilateral Amaurosis. M. Guijarro.—p. 26.
Social Defence of the Public Health. F. Murillo.—p. 47. Conc'n.

Hysteria Amaurosis.—Guijarro's patient was a young woman who had never presented appreciable signs of hysteria and the family was normal. The bilateral amaurosis developed suddenly after emotional stress—passing under the tree where her brother had hanged himself not long before. Deafness accompanied the amaurosis at first but soon subsided. The vision improved under suggestion but several months elapsed before recovery was complete.

Revista Medica, Puebla, Mexico

Jan. 15, 1919, **1**, No. 6

*Amputation of Eyeball. A. T. Estrada.—p. 121.
*Vaccine Therapy of Influenza. F. Paz.—p. 128.
Prurigo in Mexico. J. G. Urueña.—p. 129.
*Panautogenous Vaccines. T. G. Perrin.—p. 131.
Blackwater Fever. (Aguas negras.) T. Lopez.—p. 133.

Amputation of Eyeball.—Estrada gives directions for amputating the posterior segment of the eyeball to improve conditions of the stump for the wearing of an artificial eye after enucleation.

Autogenous Vaccines.—Paz presents evidence to prove that Kraus' method of preparing a vaccine from the patient's sputum is theoretically impracticable and is dangerous. Perrin answers some of Paz' statements saying that he never witnessed any phenomena suggesting infection after intraperitoneal injection of these panautogenous vaccines or antitossinas, as Kraus calls them. At the same time he personally prefers vaccines prepared by the Wright or Besredka technic.

Revista Medico-Cirurgica do Brazil, Rio de Janeiro

September, 1918, **26**, No. 9

Influenza. G. André (Toulouse).—p. 394; F. Duprat (Bagnères).—p. 419; N. Fiessinger (Paris).—p. 425.

Revista de Medicina y Cirugia Practicas, Madrid

Jan. 14, 1919, **122**, No. 1538

*Reconstruction of Angular Fractures. Villa-Zeballos.—p. 33.

Reconstruction of Fractured Bone.—Zeballos has been highly gratified by the way fractured bones with overlapping and diverging ends and fragments heal under the technic he describes with illustrations. It reduces the traumatism of the bone and periosteum to the minimum, while insuring the best possible conditions for repair. He ascribes the method to Gentil of Orleans. A metal bridge spanning the area of the fracture carries a small frame in which fits a long perpendicular screw. The frame bridges the area of the fracture and the screw is turned until it fits against the overlapping stump and pushes it down into place with gentle force. A bronze wire passed around the sagging stump and tied over the metal bridge lifts up this stump into place. Force can thus be applied in two directions from the horizontal bridge, and the force can be graduated to fit the changing conditions each day. The bridge permits lengthwise traction at the same time.

Revista de Psyquiatria, Lima, Peru

July, 1918, **1**, No. 1

Hypochondria in Eighteenth Century. Moreyra and Paz-Soldan.—p. 1.
*Mutism. L. D. Espejo.—p. 11.
*Infantilism. H. Valdizan.—p. 25.
New Phase of Psychology. H. F. Delgado.—p. 37.

Mutism.—Espejo describes among others three cases of familial deafmutism in the children of a syphilitic and alcoholic father and epileptic mother. He is inclined to incriminate the syphilis in these cases. The children spoke normally for their age until *chupos* are said to have developed on the head, probably, he says, external manifestations of inherited syphilis or possibly only boils. This occurred at the age of about 18 months in each child, and thereafter the children grew deaf and forgot all the little speech they had learned. Another little girl of 4 after an attack of malaria lost vision, hearing and the power of speech for a few days. Then vision returned, then hearing, and speech last, but with stammering and defective enunciation, and the child presents some tics. The mother was of a nervous temperament and had once had an attack of mutism lasting for three days. In the other cases of hysteric mutism described, the patients were young

women and a woman of 52. One, notwithstanding complete mutism at other times, talked freely in her sleep. The complete recovery under hypnosis and suggestion reaffirmed the hysteric nature of the disturbances.

Infantilism.—Valdizan's five cases confirm the share of the endocrine system in the morbid tendency which is manifested by infantilism. All were young men except one man of 56. In most of them the phase of infantilism followed some severe sickness, and under tonics and organotherapy clinically normal conditions were restored in time. Two were brothers, and albuminuria was among the first symptoms. He accepts it as an indication of the onset of the pluriglandular disorder, initiated in the kidneys and spleen. This assumption is confirmed by the retrogression of this infantilism under a course of tonics.

October, 1918, **1**, No. 2

*Origin of Peruvian Indian Race. J. C. Tello.—p. 51.
*Education of Epileptics. E. P. Rodriguez.—p. 56.
*Chicha, an Alcoholic Peruvian Beverage. H. Valdizan.—p. 62.
Extrapsychiatric Psychanalysis. H. F. Delgado.—p. 78.

The Origin of the Amueshas.—Tello relates a myth from the folk-lore of th: Indians of Peru.

Training of an Epileptic.—Rodriguez had charge of the education of an epileptic boy of 10 and he describes how with medical supervision it has proved possible to improve conditions immeasurably for the child. The disturbance in speech and the tendency to left paralysis suggest organic brain disease.

Peruvian Alcoholic Beverage.—Valdizan was surprised to find that among the inmates of the general insane asylum only fourteen or fifteen had a history of excessive use of chicha, the national spirituous beverage, and in very few was the chicha alone responsible. This rarity of toxic mental disorders from abuse of chicha can be explained, he says, only by assuming that chicha is harmless as some maintain, or that it acts in a different way from the habitual agents of alcoholic toxiphrenias.

Semana Medica, Buenos Aires

Dec. 12, 1918, **25**, No. 50

*Surgical Treatment of Gastric and Duodenal Ulcer. R. Finochietto and R. F. Vaccarezza.—p. 699.
*Severe Hemorrhage from Graafian Follicle. D. A. Rojas and V. Widakowich.—p. 717.
Social Darwinism and Eugenics. R. Kehl.—p. 721.

Gastric and Duodenal Ulcer.—Finochietto and Vaccarezza analyze their experiences with seventy-five operative cases of ulcer in the stomach or duodenum. They give the details of a number of typical cases and expatiate on the importance of combining both medical and surgical measures; these do not conflict with but supplement each other. In hospital practice they operate in every case of chronic ulcer of stomach or the duodenum unless they are convinced that syphilis is a factor. In this case they give a course of specific treatment and if the results are not satisfactory, they operate, regardless of the syphilis although continuing treatment. In private practice they impose a rigorous medical course of treatment, not insisting on surgical measures until these fail. Gastro-enterostomy is the operation of choice. With hematemesis they refrain from operating until a quiet interval. With subacute perforation, seen in the first twelve hours, they operate at once, but if over twenty-four hours have elapsed and the reaction of the wall is slight and the general symptoms mild, they order absolute local and general repose and defer the gastro-enterostomy until later. With acute perforation the operation must follow at once.

Hemorrhage from Rupture of Graafian Follicle.—Rojas and Widakowich retrospectively explain the case reported as a rupture of a congested follicle, a very rare occurrence. Neither in the ovary or tube were there any traces of an ovum. No large vessel was found open but a liter of blood was removed from the peritoneal cavity.

Dec. 19, 1918, **25**, No. 51

*Roentgen Diagnosis by Intravenous Injection. N. V. Greco.—p. 731.
Notes on Influenza. R. Cabrera and A. Segers.—p. 733.
*Sugar Treatment in Tuberculosis. J. S. Picado.—p. 741.
Nervous Complications of Influenza. Goñalons and Carulla.—p. 743.

Intravenous Injection in Roentgen Diagnosis.—Greco suggests the possibility of obtaining instructive information by injecting some opaque substance directly into the vein of the region. This method seems logical and practical as intravenous injection of metal salts is practiced by many now in treatment of various processes. He does not know that this method has been applied in the living to date, but his experience with rabbits seems to show its feasibility. In his experiences in vitro the salts of mercury cast the best shadows, but quinin hydrochlorid in a 0.10 per cent. solution was nearly as effectual and tartar emetic—which is used so extensively now by the vein—casts as clear shadows as the mercury salts. The dose of the quinin would correspond to a dose of 0.09 to 0.12 gm. for a person weighing 60 kg. Introduction of coloring substances seems to be especially promising as they diffuse throughout the entire body.

Sugar Treatment of Tuberculosis.—Picado gives a tabulation of the results in nine cases of pulmonary tuberculosis given systematic treatment by injection of sugar according to the Lo Monaco method. The results were disappointing, no benefit being apparent except that in a few the cough and expectoration diminished. In others, benefit and aggravation seemed to alternate; in one the sputum showed blood for the first time, and in another the blood stained sputum seemed unmodified. The blood serum showed no increase in the sugar content. The great advantage of this treatment is that the cough and expectoration may be reduced without injuring the stomach.

Siglo Medico, Madrid

Dec. 21, 1918, **65**, No. 3393

Syphilis and Salvarsan. E. M. Villapadierna.—p. 1033.
*Etiology of Cirrhosis of Liver. L. Urrutia.—p. 1035.

Etiology of Cirrhosis of the Liver.—Urrutia in looking over the records of sixty cases of cirrhosis in adults found abuse of alcohol in 35 per cent., but in thirty-nine alcohol could not possibly be incriminated. In 15 per cent. there was a history of chronic malaria. In four of the women no cause for the cirrhosis could be detected. In 5 per cent. of the total, syphilis may have contributed although one of the twelve in this group was a habitual drinker. Banti's cirrhosis seems to be anatomically identical with Laennec's cirrhosis; of the seven cases of this kind, none had a history of abuse of alcohol. Consequently it is incorrect to call Laennec's cirrhosis alcoholic cirrhosis.

Dec. 28, 1918, **65**, No. 3394

*Neurasthenia versus Uremia. C. Juarros.—p. 1053.
Congenital Gynatresia. J. E. Pallares.—p. 1054.
Differential Diagnosis of Appendicitis. T. Hernando y Ortega.—p. 1056. Commenced in No. 3390, p. 979.

Neurasthenia in Azouria.—Juarros applies the term azouria to a set of symptoms resembling diabetes insipidus but with abnormally large urea content of the urine and nervous disturbances. He reports in detail a case in a man of 48, a great smoker, with insomnia, loss of weight and nervous poise after a great grief. The symptoms suggested intense neurasthenia but examination of the urine showed oxaluria, indicanuria and 32.40 gm. urea to the liter. The absence of polyuria and of sugar in the urine excluded diabetes, and Juarros made the man stay in bed, on a milk vegetable diet, with lactic ferments and nerve tonics, brain organotherapy alternating with injectable nucleins and lecithin. Under this treatment the urea increased to 43.72 gm. per liter but the other symptoms showed improvement, and the urea also subsided to normal figures during the following month or so. After a period of comparative health the symptoms returned with the urea up to 37.80 gm. per liter.

Jan. 4, 1919, **66**, No. 3395

Aphasia with Acute Febrile Process. E. F. Sanz.—p. 4.
*Treatment of Prolapse of Rectum. A. Morales.—p. 7.
*Vacuum Extraction of Cataract. V. Moerno.—p. 8.
Leg Ulcers. Sicilia.—p. 9.

Prolapse of the Rectum.—In Morales' case the extensive prolapse kept recurring in spite of various palliative operations. The woman had had a cancerous growth excised in

1916 from the rectum. He conquered finally the tendency to prolapse by inducing cicatricial retraction as after a burn. After a purge, he had the woman keep on her feet for a time to obtain the maximum of the prolapse. Then he anesthetized the whole of the prolapsed mucosa with an 8 per cent. solution of procain, after which he applied the actual cautery, burning parallel stripes with it, from above downward, the stripes close together. After waiting a few minutes, the prolapse was reduced, handling it with gauze, and the patient kept quiet in bed for two days. This procedure was repeated three times, at intervals of six weeks. The outcome was a complete success, the patient now being in apparent good health, free from both cancer and prolapse.

Vacuum Extraction of Cataract.—Moerno relates that Barraquer of Barcelona now has a record of 630 cases of cataract which he has removed in the capsule by his method of vacuum aspiration. He does from fifteen to twenty operations of the kind each week. Simple extraction was done in 391 cases, the combined extraction in 289; with a conjunctival flap in 436 and with a suture in 194. Vision was left from 0.7 to 1 in 398; from 0.3 to 0.6 in 185; from 0.1 to 0.3 in 44, and 0 in 8. In the total 630 cases, 34 complications were encountered, hernia of the vitreous in 5; inversion of the flap in 2; rupture of the capsule in 3; luxation of the lens in 2; infection in 2; hernia of the iris in 5; hemorrhage in the anterior chamber in 3; impaction of the zonula in 4; iritis in 1, and hyphemia in 7. He calls the method facoerisis. It was described in The Journal, Dec. 8, 1917, p. 2006.

Jan. 11, 1919, **66**, No. 3396

*Cure of Rhinophyma under Radium. J. and S. Ratera.—p. 21.
*Morbid Constitutions. C. Calleja.—p. 22. Conc'n.
Treatment of Influenza. J. G. Castro.—p. 25.
Dermatologic Centers in New York. J. L. Carrera.—p. 28.
Inspiration and Therapeutics. B. H. Briz.—p. 29.

Subsidence of Rhinophyma Under Radium.—Ratera has been unable to find more than seven cases on record of radium treatment of rhinophyma, but his success in the case reported justifies its wider use. The radium was applied for twelve hours on four successive nights, by Degrais' technic, filtering through 2 mm. of lead the rays from 16.4 mg. of radium sulphate on a circular plate, 25 cm. in diameter. Three exposures were made forty days later, and two more after an interval of two months, to remove the last trace of discoloration.

Morbid Constitutions.—The main points of Calleja's article were summarized in these columns, March 15, p. 837.

Hospitalstidende, Copenhagen

Dec. 11, 1918, **61**, No. 50

*Atypical Forms of Meningitis. F. Rydgaard.—p. 1713. Conc'n.

Atypical Forms of Meningitis.—Among the cases reported by Rydgaard are two in which an aseptic purulent meningitis in a boy of 3 and man of 28 was accompanied by diphtheria bacilli in the throat. It is possible that the toxic meningitis in the course of diphtheria may be comparatively frequent but escape recognition. He knows of only a few cases on record, including Reiche's three cases. Glaser has contended that diphtheria meningitis may develop with scarcely any manifestations of the diphtheria in the throat. Rydgaard's two patients were treated with an antimeningococcus serum, and recovery promptly ensued, but prompt recovery is the rule in this type of aseptic meningitis. In a third case of aseptic purulent meningitis the young woman had developed infectious sore throat but diphtheria bacilli were not involved, and the meningitis here also was evidently of purely toxic origin. The bibliography appended shows that an aseptic purulent meningitis may develop in the course of uremia or parotitis, or with lead or ptomain poisoning, after spinal cocain or stovain anesthesia, with infectious processes in the vicinity of the meninges, and with abscesses at the back of the neck. One case is on record in which a nonsyphilitic woman for several years developed aseptic meningitis every month in connection with menstruation. There is also a series of cases on record in which absolutely no cause for the aseptic meningitis was detected.

Dec. 18, 1918, **61**, No. 51

*Bacteriology of Lupus. A. L. Fønss.—p. 1745. Concluded in No. 52, p. 1777.
Present Status of Döhle's "Inclusions" in Scarlet Fever. F. Thorborg.—p. 1762.

Bacteriology of Lupus.—Fønss' report covers 25 cases of lupus, 3 of verrucous tuberculosis and one each of dubious diagnosis and scrofuloderma, a total of 29 cases. The tuberculin skin tests elicited reactions of the human type in 22; 11 gave the strongest response to bovine tuberculin and 9 to human tuberculin; in 2 cases the response was alike for both. He tabulates 103 cases from the literature in which bacteriologic investigation showed the human type in 81 and the bovine in 18. In Denmark about 14 per cent. are bovine cases to 86 per cent. human. The German figures are 12 and 88 per cent. and the English 48 and 52 per cent., respectively, while no bovine cases seem to have been published in Italy and France. In Fønss' three cases of typical bovine tubercle bacilli, the lupus was of a severe type but the progress of the lesions was arrested by Finsen light treatment and they healed over. In these and 14 similar bovine cases from the literature, the lungs, epididymis, glands and bones showed other manifestations of tuberculosis in 8 of the total 17. This also occurred in 12 of a total of 30 cases of the human tubercle bacilli type, typical in 10, with attenuated virulence in 17, and atypical in 3. In 11 cases of verrucous tuberculosis, the patients were all butchers, and in all the lesions were of bovine origin. In the other 4 cases there was no known contact with cattle and the affection was of the human type. The clinical course of lupus does not seem to depend on either type exclusively, mild cases and severe and extensive cases occurring with each. Simultaneous skin tests with both bovine and human tuberculin are unable to differentiate the infection from them. The literature on the bacteriology of tuberculous skin lesions is reviewed and the clinical details of the total 29 cases are given in full.

Hygiea, Stockholm

Dec. 31, 1918, **80**, No. 24

*Effluence from the Human Body. S. Alrutz.—p. 1393.

Effluence or Radiation from the Human Organism.—Sydney Alrutz is lecturer on psychology at the University of Upsala, and for years he has been compiling data for a large work on the dynamics of the nervous system, conducting experiments on the suggestibility, the motility, sensation and nervous energy in the waking and the hypnotic state. He here devotes sixty pages to the illustrated description of experiments which he asserts have apparently demonstrated the existence of a hitherto unknown radiation, effluence or emanation from the human organism which affects the sensation and muscular contraction in the human body exposed to it. His research was done on two persons who were readily hypnotized for the experiments, and also on a number of normal persons. There seems to be an emanation of some nervous influence from the finger tips as they are passed without contact over the body of the subject. This influence was evident in changes in the sensation and muscular contraction of the part of the body forming the field of the experiment, anesthesia, analgesia and muscular contraction being observed. This effluence seems to pass undiminished through a sheet of glass or metal but seemed to be arrested by cardboard and wool. The illustrations show the blindfolded, hypnotized patient as subjected to the various tests, the arm in a large glass box, for instance, or the effluence transmitted through a glass rod without actual contact. Alrutz found that the effluence can be reflected against a sheet of metal, and also be conducted through a rod bent at a right angle or twisted. Even pointing the finger, above the sheet of glass, toward a muscle or tendon was followed by the contraction of the muscle or tendon. He emphasizes the similarity of the phenomena thus induced and some of the phenomena of hysteria. The discovery of this emanation of nervous energy tends to throw light on the phenomena of hypnotism as the hypnotizer makes passes without direct contact.